UNIVERSITY OF TARTU
Institute of Computer Science
Innovation and Technology Management Curriculum

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Customer-Centric Redesign of the Mortgage Application Process in Baltic Banks

Master's Thesis (20 ECTS)

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Tartu 2025

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Abstract:
Placing customers firmly at the center of the business underpins the main idea behind customer centricity. Previous studies have effectively indicated the benefits of integrating customer centricity into business processes, such as gaining a competitive advantage and increased customer satisfaction. However, the mortgage process remains understudied from a customer perspective, particularly in the context of the digital environment. This thesis investigates how Baltic banks can redesign their digital mortgage application process to be more customer-centric, focusing on the experiences and pain points of private mortgage clients in Estonia, Latvia, and Lithuania.

For this purpose, the research adopted a qualitative approach to analyze collected data from competitor analysis of Baltic banks' mortgage webpages and semi-structured interviews with borrowers. The competitor analysis resulted in 40 content elements and features, identifying customer service gaps in how banks communicate mortgage information to prospective borrowers before application. Furthermore, through thematic analysis of the semi-structured interviews, we extracted 6 themes and 22 subthemes, characterizing customers' unmet needs, challenges, and overall experience dealing with the mortgage process.

Finally, the empirical findings were synthesized to propose 12 actionable customer-centric recommendations for improving the customer-centricity of the mortgage process. This thesis provides a deeper insight into the mortgage experience of Baltic banks' borrowers and contributes to the implementation of customer-centric business redesign in the banking industry.

Keywords: mortgage, customer centricity, business process redesign
CERCS: P175 Informatics, systems theory

Balti pankade hüpoteeklaenu taotlemise protsessi kliendikeskne ümberkujundamine

Lühikokkuvõte:
Klientide asetamine ettevõtte tegevuse keskmesse on kliendikesksuse põhiolemus. Varasemad uuringud on veenvalt näidanud kliendikesksuse integreerimise eeliseid äriprotsessidesse, näiteks konkurentsieelise saavutamist ja suurenenud kliendirahulolu. Siiski on hüpoteeklaenu protsessi kliendi vaatenurgast endiselt vähe uuritud, eriti digikeskkonna kontekstis. Käesolevas lõputöös uuritakse, kuidas Balti pangad saaksid oma digitaalset hüpoteeklaenu taotlemise protsessi ümber kujundada kliendikesksemaks, keskendudes Eesti, Läti ja Leedu eraisikutest hüpoteeklaenuklientide kogemustele ja valupunktidele.

Selle eesmärgi saavutamiseks kasutati kvalitatiivset uurimismeetodit, et analüüsida Balti pankade hüpoteeklaenude veebilehtede konkurentsianalüüsist ja laenuvõtjatega läbi viidud

poolstruktureeritud intervjuudest kogutud andmeid. Konkurentsianalüüsi tulemusel kaardistati 40 sisuelementi ja funktsiooni, mille põhjal tuvastati puudujäägid klienditeeninduses, eriti selles, kuidas pangad edastavad hüpoteegiinfot potentsiaalsetele laenuvõtjatele enne taotluse esitamist. Lisaks tuvastati poolstruktureeritud intervjuude temaatilise analüüsi kaudu 6 teemat ja 22 alateemat, mis kirjeldavad klientide rahuldamata vajadusi, väljakutseid ja üldist kogemust hüpoteeklaenu protsessis.

Empiiriliste andmete põhjal koostati 12 rakendatavat kliendikeskset soovitust, mille eesmärk on parandada hüpoteeklaenu protsessi kliendikesksust. Käesolev töö pakub sügavamat arusaama Balti pankade laenuvõtjate kogemusest ning toetab kliendikeskse äritegevuse ümberkujundamise rakendamist pangandussektoris.

Võtmesõnad: hüpoteeklaen, kliendikesksus, äriprotsesside ümberkujundamine
CERCS: P175 Informaatika, süsteemiteooria

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Acknowledgements

First and foremost, I wish to express gratitude to all my interviewees for entrusting me with their personal stories and laying the foundation for the success of my work. I hope you will craft countless, beautiful memories in your homes, and they will always be full of warmth and laughter.

I was fortunate to have two knowledgeable supervisors, and I am grateful for their support and patience throughout the writing of this thesis. Thank you for your guidance and for making the university welcoming and exciting!

My heartfelt thanks also go out to my friends for standing by me and inspiring me to become a better version of myself. I hope all your innermost dreams come true, and we will enjoy many great adventures together. Let's keep on dreaming and never lose hope!

My acknowledgements would not be complete without thanking my dear family. I love you, Mom and Dad! Thank you for teaching me to love this life and always being a source of encouragement, advice, and reassurance. I welcome this opportunity to digitalize in writing that I love my little, cool sister! Forever stay open-minded, kind, and curious! I will always be there for you.

I would not have been able to reach the finish line of my master's degree and see so much beauty in this world without the love of my incredible partner. Being with you always feels like home to me, and no mortgage could ever exist to match our priceless umwelt. Χίλιες ευχαριστίες!

I wish everyone has a love that feels like home and a safe home full of love.

1 Introduction

Buying a home is a cherished dream and the most significant financial commitment for many people. Mortgage lending holds the key to unlocking the dream of homeownership, yet banks are losing to non-bank lenders in delivering excellent digital service [1], [2] and sometimes struggle to guide customers seamlessly through the mortgage application process [3]. Despite several studies conclusively showing that customer focus drives competitive advantage alongside customer satisfaction and loyalty [4], [5], [6], [7], [8], there remains a paucity of academic evidence and a relatively small body of literature addressing how the digital mortgage process could be optimized with respect to customers' wants and needs.

The importance and originality of this study lie in its exploration and clarification of the frictions and pain points involved in obtaining a mortgage loan from a customer's perspective. The overarching aim of the research is to propose concrete and practical improvements to the digital mortgage application journey that would make it more customer-centric for private borrowers in the Baltic region. The study thus asks: **RQ:** *How can the digital mortgage application process be redesigned to be more customer-centric?*

The findings in this thesis represent a further step towards promoting customer-centricity in the banking industry by contributing to a better understanding of Baltic banks' private homebuying borrowers and their experiences navigating the mortgage process. Therefore, the study should be of value to banking professionals looking to redesign the mortgage process from a customer-centric perspective.

The overall structure of the thesis takes the form of six chapters, including the current one. Chapter 2 provides background information and presents a more detailed overview of the main concepts of the thesis, namely mortgage, customer centricity, and business process redesign. Chapter 3 outlines the methodological approach, describing the research design, data collection and data analysis methods, as well as the process of deriving recommendations for the mortgage application process. Chapter 4 presents findings from a competitor analysis of Baltic banks' mortgage webpages and thematic analysis from interviews with borrowers. Chapter 5 synthesizes empirical findings into actionable customer-centric recommendations for improving the mortgage application process in Baltic banks, discusses research limitations, and proposes avenues for future research. Chapter 6 gives a summary of the key findings, demonstrating how the research goal was achieved and the main contributions of the work.

The thesis also includes six appendices that provide supplementary information for replicating the research and offer additional transparency regarding the research process. Appendix I showcases the interview participant consent form. Appendix II lists the questions from the interview guide used to guide semi-structured interviews. Appendix III features the breakdown of the 40 website elements from the competitor analysis table. Appendix IV illustrates the themes, subthemes, and borrower quotes in the thematic analysis table. Appendix V details the 12 customer-centric recommendations for the mortgage process. Appendix VI includes the standard non-exclusive license from the University of Tartu for publishing the work.

2 Background

This section presents the key concepts and ideas used in this thesis, including mortgages, customer centricity, and business process redesign.

2.1 Mortgage

The aspiration for homeownership is a significant milestone for many individuals, and the primary financial instrument facilitating this is the mortgage. A **mortgage is a long-term loan used to finance the purchase of residential real estate** by borrowing funds from a lender, typically a bank or another financial institution, under a contract with repayment conditions [9], [10]. This way, the mortgage enables one to own a residence without paying the entire house purchase price upfront, so instead, the borrowers commit to making a series of scheduled periodic payments to the lender over time until the loan is paid back [10], [11]. Traditionally, **mortgages span 15 to 30 years** or even longer, but the borrower can repay the loan earlier than the prescribed time period by making extra payments, refinancing the mortgage at a lower interest rate, or using the proceeds of selling the home to repay the mortgage (Weiss & Jones, 2017). The defining characteristic of a mortgage is that **the property being financed almost always serves itself as collateral for the loan** to provide security to the lender, meaning, as long as the mortgage is in effect, the lender can legally claim ownership of the property through a foreclosure process to recoup the outstanding debt if the borrower defaults, i.e., fails to meet the repayment obligations [10], [11]. The mortgages generally share the following basic characteristics [9], [11]:

1. **Principal** is the original amount of money borrowed from the lender to purchase the property, which decreases over the life of the loan as the borrower makes payments.
2. The length of the loan, known as the **loan term** or loan maturity, is the total duration over which the mortgage loan is scheduled to be repaid.
3. **The loan's repayment schedule** describes how the loan will be repaid, e.g., in monthly installments, a final lump sum payment, or a combination of the two.
4. **The contract interest rate** is the cost of borrowing the principal, paid by the borrower to the lender. It is the percentage of the principal charged as interest over a specific period, which may be either fixed, remaining the same throughout the loan term, or variable, fluctuating based on a benchmark market rate.

The most common types of mortgages are fixed-rate and adjustable-rate [10], [11]. **Fixed-rate mortgages** follow an annuity repayment schedule, where the monthly payment (consisting of principal and contract interest rate payments) is the same every month until the end of the loan term, regardless of market interest rate behavior [10], [11]. Since the interest rate paid by the borrower is constant throughout the entire mortgage and based on the loan balance, the monthly payments mainly consist of interest in the initial period, while the principal payment constitutes a larger share of the monthly payment gradually over a decreasing loan balance [10], [11]. **Adjustable-rate mortgages**, on the contrary, have a linear repayment schedule with equal monthly principal payments, where the monthly payment varies over the loan term because of the floating interest rate adjusted to some index [10], [11]. In the European money market, the variable interest rates is often linked to Euro Interbank Offered Rate, or shortly Euribor, which

is considered the most important reference rate and calculated for five maturities (one week, and one, three, six, and twelve months) that provides the basis for the mortgages in Eurozone banks [12], [13].

From the perspective of borrowers, there are essentially **five key stages that make up the mortgage process, namely pre-approval, loan application, loan processing and underwriting, closing, and loan servicing**:

1. In the beginning, prospective homebuyers conduct research to look into the real estate market and check potential lenders for a mortgage. They turn to bank websites to explore current loan conditions such as interest rates, repayment terms, and eligibility criteria, and understand what documents or requirements are needed to proceed with the mortgage. Many homebuyers tend to use online tools like maximum loan limit and monthly payment calculators to assess how much they can afford or what associated costs taking the mortgage entails [14]. Once ready to inquire more about the mortgage, and even more so having a property they would like to buy, **homebuyers will usually request pre-approval from a bank or several banks simultaneously to estimate their borrowing capacity** [14], [15], [16]. The pre-approval process helps to establish a homebuying budget range, identify credit issues, and confirm that the potential borrower has the necessary income, assets, and creditworthiness to obtain a mortgage on a residence of up to a specified value [17], [18], [19]. Mortgage pre-approval differs from a full application in that it requires less documentation, however, it does not guarantee a final loan approval and is subject to an expiration date after which the pre-approval should be repeated, given that provided financial information may become obsolete in the meantime [17], [18], [19].
2. After making an offer on a desired property and receiving a positive response, the potential borrower can move forward to **formally applying for a mortgage by presenting extensive paperwork to the lender** or several lenders concurrently to find the best mortgage loan they can qualify for [14], [15], [19], [20]. The mortgage application requires potential borrowers to collect and submit a wide range of information, for a rigorous review including employment, income sources and obligations, proof of assets and details of liabilities, property specifics, and payment history, e.g., delinquencies and bankruptcies [14], [15], [19], [20],. Considering that the property in question will serve as the collateral for the mortgage loan, at this stage or later, depending on the mortgage lender and jurisdiction, it is standard to commission a property inspection and appraisal conducted by a licensed, independent real estate appraiser that the lender approves to determine and validate the property's fair market value [14], [19], [21]. Lenders commonly assign loan officers to suggest mortgage financing options tailored to the homebuyers' financial capacity, and also help prepare the mortgage application and monitor the loan processing progress [15].
3. The next step that follows mostly involves **the lender's loan processor preparing the mortgage loan information and application for presentation to an underwriter** [15], [16]. The loan processor is responsible for diligently compiling and organizing all the necessary documentation in a single file, which represents the borrower and the property, and delivering the processing file to underwriting for the loan decision [15],

[17]. The loan processing ensures that all supporting documents are complete and calculations are verified for accuracy [15], [16]. **The underwriter carefully evaluates the loan file and arrives at an ultimate decision of approving, rejecting, or suspending the mortgage loan application for more information** [14], [15], [16]. Before issuing the mortgage offer, the underwriter bases its decision on the value and marketability of collateral as well as credit history, financial capacity, and available capital of the borrower [16].

4. Upon receiving the lender's approval, **the borrower has a choice to accept the mortgage offer and go through the closing process** that encompasses the "transferring ownership from the seller to the buyer, the disbursement of funds from the buyer and the lender to the seller, and the execution of all the documents associated with the sale and the loan" [17]. During the closing meeting, borrowers are required to sign numerous legal documents such as the mortgage agreement, the mortgage note, and the deed, after which ownership is formally transferred, and the borrower typically receives the keys to the property [14], [15], [16].
5. The last stage of the entire process deals with the ongoing management of the mortgage, which includes making regular payments to avoid delinquencies and foreclosure [15], [16], [17]. The lenders' servicing agents administer the mortgage loan until its payoff, collecting payments and handling customer inquiries [16], [17].

Mortgages play a critical role as a pathway to homeownership for most people, which incrementally **increases personal wealth** through property appreciation and equity accumulation [22], [23], [24], **provides financial security** and sense of stability [25], [26], and even **contributes to better health and welfare** of housing residents [27], [28], [29], [30]. The significance of mortgage lending extends beyond individual homeownership as it can also **stimulate the social and economic growth of a country** [25], [31], [32], [33]. Therefore, many governments, including the Baltic states, are **incentivized to support homebuyers through grants, subsidized mortgages and loan guarantees, tax relief measures**, or other similar mechanisms to reduce costs for eligible borrowers [34], [35], [36]. According to the OECD Affordable Housing Database, Estonia, Latvia, and Lithuania channeled 0.17%, 0.03%, and 0.05% of their GDPs on public support to homebuyers and homeowners in 2022, respectively, mainly in the form of subsidized mortgages and mortgage guarantees [37]. For instance, a house loan guarantee from the Estonian Business and Innovation Agency (EIS), formerly known as KredEx, decreases the down payment obligation and allows the target groups of young families and young professionals to obtain a loan with 10% self-financing or at least 5% for families with many children [38].

Despite the importance of mortgages for borrowers, **the digital mortgage application process that banks offer still falls short of being truly customer-centric**. Madan et al. report that, even though exceptional customer experience is a considerable competitive differentiator, especially among first-time homebuyers, the overall customer satisfaction with the mortgage process is 20% relatively lower in banks compared to non-banks regarding obtaining a mortgage and 28% lower in banks when it comes to refinancing a mortgage [2]. Another research by Fuster et al. emphasizes that banks are lagging behind FinTech lenders in mortgage

processing speed and should aspire to learn from the convenience of FinTechs' online application process and semiautomated underwriting process [1]. Recent studies observe that **banks need to further prioritize improving reassurance, transparency, simplicity, and speed of their mortgage application processes for borrowers** and work towards becoming more customer-centric to minimize friction and address service delivery gaps [2], [3]. These persisting challenges underscore the need to redesign the digital mortgage application process with the customer's perspective at its core.

2.2 Customer Centricity

Customer centricity often refers to **a business approach and organizational mindset that places the customer at the center of business decision-making, service design, and value delivery** [39], [40], [41]. Unlike the traditional product-centric model or "inside-out" perspective, which emphasizes developing internal resources, improving production efficiency, or pushing products to market, **the customer-centric approach embodies an "outside-in" orientation that begins with a profound understanding of customers' needs, behaviors, and preferences** [42], [43], [44]). Moormann and Palvölgyi captured well the essence of customer centricity as follows: “the world of the customer should be the heart of the customer-centric enterprise, determining the company’s business model, corporate strategy, business processes, resource allocations as well as its offering of products and services” [43]. **The primary goal of adopting this paradigm shift towards customer centricity is dual value creation**, where customers benefit from having their needs and wants satisfied, while companies gain a competitive edge and improved financial performance by cultivating long-term relationships with loyal customers [39], [41], [45]. Companies widely recognize the appeal of shifting to customer centricity and treating customers as value co-creators [45], [46], [47]. Building high-quality customer relationships is particularly relevant in the competitive nature of the financial services industry, given that customers are becoming more demanding and the need for differentiation beyond pricing strategies is growing [5], [6]. Findings from several studies illustrate that **customer centricity is increasingly essential for banks to develop competitive services in the market and enhance customer satisfaction and loyalty** [4], [5], [6], [7], [8]. The study by Lymperopoulos, Chaniotakis, and Soureli specifically concluded that the service quality provided by bank personnel is the most critical factor influencing customers' bank selection and long-term relationship formation [6].

However, while many companies claim to internalize and operationalize customer-centric thinking, achieving and maintaining customer centricity in practice requires substantial transformation throughout the organization. In fact, previous studies point out **multiple organizational obstacles to implementing customer centricity**, including resistance to changing a deeply ingrained culture, lack of strong leadership commitment, issues with realigning internal business processes, and the need to revise financial metrics [41], [42]. Based on an extensive synthesis of academic and business practitioner literature, Palmatier, Moorman, and Lee therefore argue that "changes in the internal architecture involve multilevel transformations in organizational design, including leadership, metrics, incentives, structure, processes, and systems" [41]. Hemel and Rademakers also acknowledge the challenges of

becoming a truly customer-centric organization and **highlight nine shaping factors and three barriers for companies to consider on their path toward customer centricity** [39].

In this regard, **digital transformation plays a significant role in advancing customer centricity** across various industries by fundamentally reshaping how companies structure internal processes, deliver services, and communicate with their customers [48], [49]. Digital technologies and rising digitization of customers' lives have created opportunities for companies to derive insights using sophisticated data analytics, provide personalized offers and tailored communication, create new convenient touchpoints and increase connectivity with customers, promote transparency and responsiveness, enhance process efficiency and enable all-around seamless experience [40], [50], [51]. Hence, **effective technology integration in customer value creation further contributes to customer satisfaction and competitive advantage** [49], [51]. Still, while digital transformation presents lucrative opportunities, the adoption of technology does not always translate into a positive impact on customer centricity [52]. Kannan and Gu outline a number of issues that might have unintended negative consequences in connection with handling of personal data for personalized targeting and ease of interaction, fairness and transparency behind the use of AI and machine learning for personalized pricing, biased algorithms and metrics in customer targeting, and customer service automation [52]. To fully realize the potential of technology, organizations should align their internal operations with customer needs and expectations. In other words, **customer-centric thinking should also be applied at the level of business process redesign to guide how services are structured, how decisions are made, and how information flows within the organization**. The following section explores how business process redesign, informed by customer-centric principles, can help financial institutions deliver more coherent, efficient, and user-friendly mortgage application experiences.

2.3 Business Process Redesign

Business process redesign, also known as process improvement, is one of the six phases in the business process management lifecycle that many organizations follow to oversee their work performance for outcome consistency and leverage improvement opportunities [53]. As shown in Figure 1, it is closely linked to the preceding phase of process analysis since **the primary goal of business process redesign is to identify and propose change options that would address the weaknesses and issues associated with the existing process model and allow the organization to meet its performance objectives** [53].

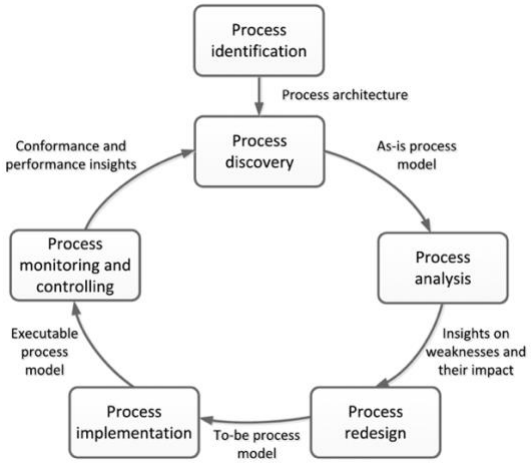

Figure 1. The Business Process Management Lifecycle [53].

The concept of business process redesign gained prominence in the early 1990s, largely thanks to Hammer and Champy, who defined it as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service, and speed" [54]. The earlier idea behind the business process redesign implied a comprehensive reconsideration and overhaul of core business processes for realizing significant gains in performance and efficiency, however, the follow-up empirical research and Hammer himself showed evidence that counter its radical aspect and advocacy for starting over with a clean slate in favor of a more incremental approach and refining of existing processes [53], [55], [56], [57]. Thus, even though BPR is often associated with radical, fundamental transformation and rethinking of processes from scratch, **business process redesign methods can be applied to both incremental and radical process improvements for serving customers more efficiently and effectively** [53], [58].

Different business process redesign approaches can be generally distinguished by **the intensity of the change sought** and **the starting point of the redesign effort** [59]. The intensity refers to the pace of changing the process, which can either be evolutionary when the organization gradually improves the existing process over a shorter period, or revolutionary, meaning the organization is seeking to completely reinvent its process, and the time frame is typically long [59], [58]. As for the starting point of business process redesign, organizations can choose between starting from an existing process as a basis to correct current inefficiencies, from scratch to develop a new way of performing a process, or from a state-of-the-art blueprint or reference model [59]. Dumas et al. classify two business process redesign methodologies that differ in terms of the abovementioned traits: **Heuristic Process Redesign** and **Product-Based Design** [53]. **Heuristic Process Redesign methodology** gradually tackles existing processes and consists of the three iterative, overlapping stages, where the organization first inspects the current situation for performance issues and improvement opportunities, applies suitable redesign heuristics to determine potential improvements, and evaluates different redesign scenarios on their implementation attractiveness for desirable performance [53]. To help process designers navigate redesign heuristics, Mansar and Reijers organized business process redesign best practices into a framework, categorized by seven elements depicted in Figure 2,

where the areas of significant relevance such as external and internal **customers** of the business process, **products** generated by the business process, and the **information** flow the business process uses or creates are presented in bold [60]:

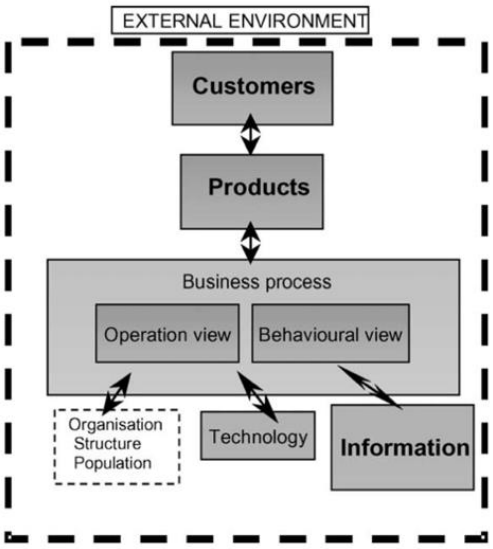

Figure 2. Framework for Business Process Redesign Implementation [60].

Alternatively, Dumas et al. propose **the redesign orbit**, shown in Figure 3, as a classification scheme to distinguish and visualize the spectrum of business process redesign methods based on three dimensions: **ambition**, referring to the magnitude of the change the method aims to achieve (transactional vs transformational methods), **nature**, describing whether the method relies on data analysis or creative ideas (analytical vs creative), and **perspective**, indicating the viewpoint taken by the redesign method (inward-looking vs outward-looking) [53]:

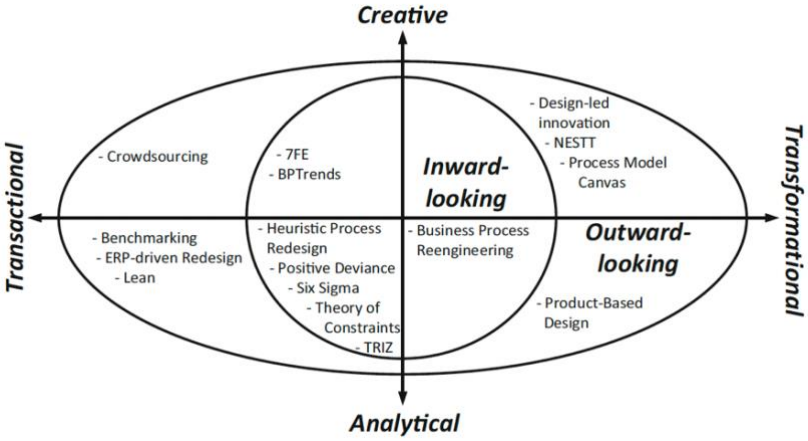

Figure 3. The Redesign Orbit [53].

In **Product-Based Design methodology**, the product's characteristics that the to-be model of the process should deliver informs the new process design, so organization initially scopes the business process subjected for redesign, sets performance targets to aim for, breaks down the process to the level of product specification to guide process designs, which are then validated with users to match the redesign performance objectives [53].

When evaluating the effects of redesign, a framework called the **Devil's Quadrangle** is often used, which considers four main performance dimensions to measure the degree of improvement: time, cost, quality, and flexibility [53]. Ideally, the process redesign decreases the time necessary to handle a case and process execution cost, while improving service delivery quality and the ability of the business process to react to variation. However, the trade-off of the Devil's Quadrangle is that improving one dimension may weaken another, making it useful to establish the performance goals and assess the potential effects of redesign measures during the initiation stage [53]. The Devil's Quadrangle framework is illustrated below in Figure 4:

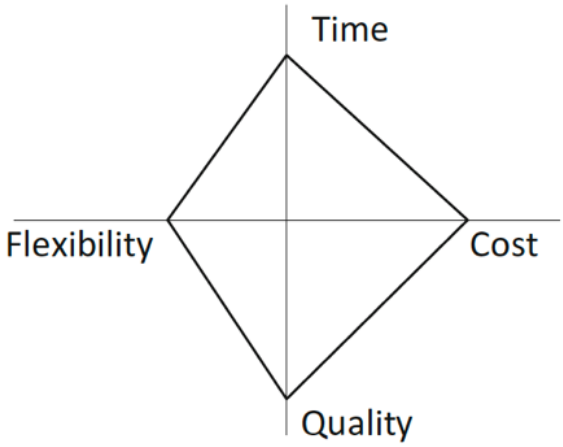

Figure 4. The Devil's Quadrangle [53].

Amid rapid advancements in technology, intensified competitive pressures, and evolving customer expectations, **the relevance of business process redesign has grown substantially within the banking sector** due to its capacity to modernize outdated workflows, improve service efficiency, and deliver more responsive, customer-oriented experiences to remain competitive in a changing financial environment [61], [62], [63]. Improving the quality of customer service particularly necessitates banks to rethink and realign their operations with the demands of their clients [62], [63]. To support this transition from product-centric towards a customer-centric organization, Frank et al. (2019) proposed a validated set of **15 design heuristics specifically developed for customer-centric business process redesign**, summarized in Figure 5:

Category	Heuristic	Brief description
Enable Customers to Shape the Interaction	Channel flexibility	Let customers interact with the company via the channels they prefer
	Locational flexibility	Let customers interact with the company wherever they want to
	Temporal flexibility	Let customers interact with the company whenever they want to
	Customer self-service	Offer customers the possibility to serve themselves
	Privacy presence	Offer customers the possibility to choose among privacy settings
Facilitate Coordinated and Integrated Processes with Customers	First-contact problem resolution	Ensure that customers must contact the company only once to get their problems resolved
	Informed point of contact	Ensure that relevant customer data are known at the point of contact
	Consistent brand experience	Ensure that interactions have a uniform and recognizable look-and-feel in the customers' eyes
	Customer process integration	Connect with prior and/or subsequent steps of the customers' processes
	Customer-friendly control flow	Improve the efficiency of interactions from customers' perspective
	Customer support	Help and guide customers throughout interactions
Enhance Social and Emotional Links with Customers	Customer excitement	Excite customers by an expectation-exceeding add-ons or modifications
	Personalized interaction	Personalize interactions with customers based on their preferences
	Customer feedback	Offer customers the opportunity to provide feedback
	Customer community	Enable customers to interact with one another

Figure 5. Customer-Centric Design Heuristics [63].

These heuristics offer practical guidance for improving interaction-intensive core processes in service sectors such as banking. Embedding these heuristics into business process redesign efforts, respectively, helps shift process design from an inside-out, efficiency-driven view to an outside-in approach focused on co-creating value with customers [63].

3 Methodology

This chapter describes the methodological approach of the study and explains its relevance to answering the research question. In the sections below, we elaborate on the research question, research process, data collection, data analysis, and the procedure for deriving recommendations.

The primary aim of this research is to propose improvements to the digital mortgage application process based on insights gained from the borrowing experiences of private mortgage clients in the Baltic region. Accordingly, the central research question guiding this thesis was formulated as follows: ***RQ:*** *How can the digital mortgage application process be redesigned to be more customer-centric?* To address this question, we examined borrowers' preferences, expectations, frustrations, and pain points when interacting with banks in Estonia, Latvia, and Lithuania throughout the mortgage process, identified key areas for improvement, and developed practical recommendations to help Baltic banks streamline digital mortgage applications and enhance customer satisfaction.

The current study adopts a qualitative research design to explore and understand borrowers' experiences, perceptions, attitudes, and challenges throughout the mortgage process. A qualitative approach was decided as the best method for this investigation due to its capacity to yield in-depth insights into personal experiences and complex behaviors that quantitative methods may overlook [64]. To be precise, semi-structured interviews were chosen as the key method of data collection, and thematic analysis was used for exploration of the interview data. To complement the findings of the thematic analysis, the study also included a competitor analysis of Baltic banks' webpages on mortgages. We reviewed and documented how banks present loan information, what features and tools are made available to prospective borrowers, how application procedures are communicated, and what channels of support or guidance are offered. Recurring and missing content elements, clarity of information presentation, and support tools were mapped across the banks in the region in order to better contextualize the loan applicant's user journey and support identifying information and customer service gaps.

The research process is broadly divided into three distinct procedures: Data Collection, Data Analysis, and Deriving Recommendations. Figure 6 illustrates a visual summary of the research process below:

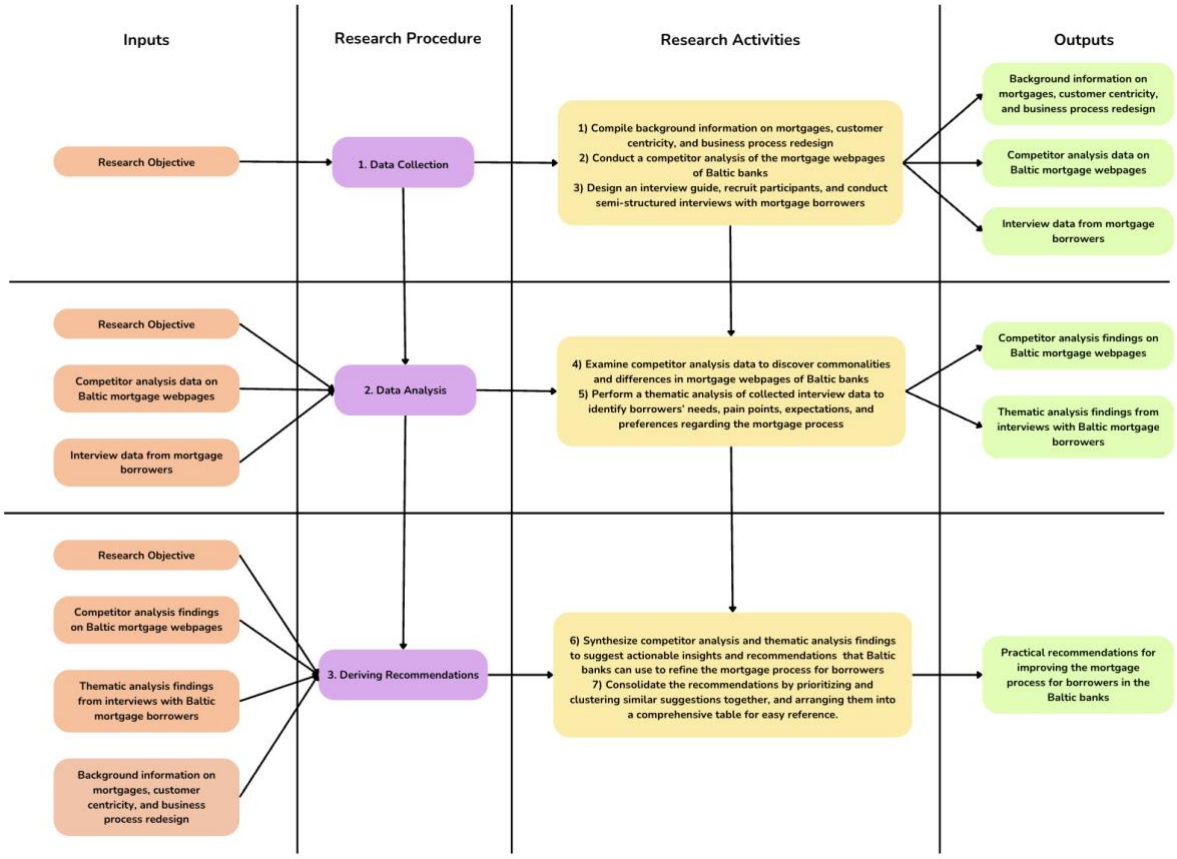

Figure 6. Research Process.

In the first stage, the research objective served as an input to motivate the compilation of background information from industry standards and academic resources on mortgages, customer centricity, and business process redesign. This knowledge laid the foundation for understanding the mortgage process, inspired the interview guide, and narrowed down our focus on making the mortgage application process more customer-centric. We presented the background material in Chapter 2 to introduce the reader to the core concepts of the research. In parallel, a competitor analysis of mortgage webpages for private clients was conducted across 10 banks operating in Estonia, Latvia, and Lithuania, which provided a deeper contextual understanding of borrowers' information space in the early stages of the mortgage process, specifically regarding how mortgage information is currently presented to them by banks and where gaps may exist. During the data collection stage, we also developed the interview guide as well as recruited and interviewed mortgage borrowers to gather firsthand insights into their experiences.

In the second stage of Data Analysis, we proceeded to extract meaningful findings from the collected data. First, we examined competitor analysis data to discover commonalities and differences in how banks across the Baltic region present mortgage information online. Then, we performed the thematic analysis of the data from interviews with borrowers to identify their needs, pain points, preferences, and expectations throughout the mortgage process. The competitor and thematic analysis results are available in Chapter 4.

In the last stage, we synthesized the empirical findings from thematic and competitor analyses to come up with recommendations for addressing the research question. The recommendations were prioritized based on the frequency with which the issues they tackle were mentioned by interviewees and the number of times the banks in the competitor analysis did not manage to provide the requested information or service to the visitor. We also outlined possible obstacles to implementing recommendations, made assumptions about their feasibility, and highlighted the potential benefits for borrowers. Furthermore, the recommendations were aligned with customer-centric design heuristics by Frank et al. (2019) and grouped into clusters in a structured table, offering practical guidance for improving the mortgage application process in Baltic banks. The recommendations are discussed in Chapter 5. Ultimately, we used the Grammarly software tool to review and correct mistakes in the thesis.

3.1 Data Collection

Data was collected through two main methods: competitor analysis of mortgage webpages from Baltic banks and semi-structured interviews with mortgage borrowers.

3.1.1 Competitor Analysis

To gain a more holistic view of the digital mortgage landscape in the Baltics, a competitor analysis of the mortgage webpages of banks operating in Estonia, Latvia, and Lithuania was conducted. The analysis aimed to understand how mortgage information is currently presented to prospective borrowers and what tools and functionalities are offered to aid their decision-making and loan applications.

Firstly, we identified all the banks offering mortgages to private clients across Estonia, Latvia, and Lithuania, among which we found Swedbank [65], SEB [66], LHV [67], Coop [68], Luminor [69], Bigbank [70], Holm [71], Citadele [72], Artea [73], and URBO [74]. All three Baltic countries were considered for comparison since they have a shared regional context, economic similarities, and comparable financial markets, and major banks serve customers across the whole region. Each bank's English language version of the mortgage webpage was manually reviewed based on the availability of various elements and information details, also paying attention to relevant subpages, downloadable documents, frequently asked questions sections, and references. For a consistent comparison, we created and populated a Google Sheets spreadsheet to track the presence of different elements from the perspective of an online viewer. All the entries for every webpage were color-coded to indicate the extent to which the bank covers the information on the main mortgage landing page. Green color in the competitor analysis table means the element is covered in full, yellow color signifies that the information is available but located on the other webpage or linked document, while red color is for absent elements that could not be found. The competitor analysis contributed to a broader understanding of the digital mortgage landscape in the Baltic region and identified common practices, standout features, and gaps in information across banks. The discoveries were further taken into account in formulating questions for the interview guide to explore the borrowers' mortgage application experience more in-depth.

3.1.2 Interviews

This study targeted individuals with first-hand experience in obtaining mortgages from different banks in Estonia, Latvia, or Lithuania, where first-time homebuyers with a loan from the past two to three years were of particular interest. The rationale behind the criteria for interview subjects was that recent first-time borrowers are likely better able to recall the specifics of the mortgage process and articulate specific friction points that frustrated them or hindered the process due to their lack of past experience. When selecting interviewees, we were aiming for the borrowers with a loan start date within the last several years to ensure their experience more accurately reflects the current digital mortgage application process in place across banks, thereby increasing the relevance and applicability of the findings. Additionally, we also paid attention to the banks that participants selected for a mortgage in assembling the participant pool in order to reach a larger variety of Baltic banks represented in this study. Participants from Estonia, Latvia, and Lithuania were eligible for the study because many of the major banks operate across all three Baltic countries.

Participants were recruited using purposive sampling through LinkedIn, Facebook, and professional and personal connections to expand the outreach and diversity of potential participants. The purposive sampling method was adopted to identify individuals best suited for the research who matched the target criteria. Twelve participants were selected and interviewed to achieve data saturation, and each of them was sent the consent form before the interview detailing the research objective, participation procedure, and confidentiality assurances. The participant consent form used in the study is included in Appendix I. Please refer to Table 1 to see the overview of interviewees and their selected characteristics.

Table 1. Interview participants

Participant ID	Age at the Time of Obtaining a Mortgage	Mortgage Experience at the Time of Applying	Home Bank	Selected Bank for Mortgage	Loan Start Date	Time Frame for Obtaining the Mortgage
IP-1	25	First-time Homebuyer	Swedbank	Swedbank	March 2024	2 weeks
IP-2	31	First-time Homebuyer	Swedbank	LHV	October 2024	2 weeks
IP-3	24	First-time Homebuyer	Swedbank	SEB	October 2024	3-4 months
IP-4	24	First-time Homebuyer	LHV	Luminor	February 2024	3-4 months
IP-5	22	First-time Homebuyer	Swedbank	Swedbank	February 2022	2 weeks
IP-6	25	Third-time Homebuyer	LHV	Luminor	April 2024	2 months
IP-7	32	First-time Homebuyer	Swedbank	Swedbank	May 2022	1 month

IP-8	31	Second-time Homebuyer	LHV	LHV	February 2024	1 month
IP-9	23	First-time Homebuyer	Swedbank	Swedbank	November 2019	3 weeks
IP-10	24	First-time Homebuyer	LHV	LHV	June 2023	3 weeks
IP-11	28	First-time Homebuyer	SEB	SEB	July 2020	3-4 weeks
IP-12	26	First-time Homebuyer	SEB	SEB	April 2022	2 weeks

The interviews were conducted in a semi-structured format. The semi-structured approach was adopted for a number of attractive features, such as a flexible framework, giving space for interviewees to express their views, thoughts, and feelings freely and authentically while providing enough structure to cover key aspects of the mortgage process consistently across interviews [64]. The freedom of the format also allowed for comparability between interviews, along with the possibility of adapting on the go to each person's individual journey, following up on unexpected responses, and probing for answers as new information was brought during the dialogue (Edwards & Holland, 2013) [64]. The second advantage of semi-structured interviews is the rich data and nuanced perspectives of the participants that they allow for gathering, which helps to better tap into the interviewees' thoughts and emotions [75]. It was considered that the conversational style of semi-structured interviews would further improve the quality and depth of participants' responses, given the more sensitive nature of the mortgage experiences [75].

To discover the experiences of mortgage borrowers as intimately as possible, we prepared an interview guide informed by the output of the background material from Chapter 2 and competitor analysis results from Chapter 4. The questions in the interview guide were structured into three categories to represent the general distinct stages of the mortgage process: 1) Choosing the Bank, 2) Loan Application Experience, and 3) Loan Management Experience. Questions 1 to 4 were asked to clarify the reasoning behind the bank selection criteria and what influences the borrowers' decision-making. We wanted to investigate their thought process with these questions and shed light on what makes certain banks more appealing in comparison to others in the eyes of potential applicants. The interview guide continues with questions 5 to 11, which attempt to grasp the borrowers' interactions with the banks and their feelings during the application process. These questions helped to identify various pain points, moments of satisfaction, and what could be improved as they went through the mortgage application. On top of that, we inquired about their experience and attitude towards the ongoing process after securing the mortgage in questions 12 to 15. We were interested in understanding how they feel about ongoing communications with their lenders, the ease of monitoring the loan progress, and any challenges they may encounter in managing their mortgage over time. Each participant had access to the interview guide well in advance prior to our meeting to remember and confirm

the specific details of their mortgage journey. The full interview guide can be viewed in Appendix II.

The interviews were carried out remotely via video calls in Zoom and recorded with the consent of the participants. Interviewees gave verbal consent to record the interview at the beginning of the call and were notified once the recording had started. All data were anonymized during the recording transcription, and personal identifiers were excluded to protect participant privacy. Each interview participant was assigned a code to be used in reporting, such as "IP-X," where X denotes the interview number: the first interview participant received an IP-1 code, for example.

The interviewing phase took 10 days, excluding the time spent on participant recruitment, and 12 discussions were conducted with mortgage borrowers. The entire interview series is cumulatively 435 minutes long, with the average duration of one interview being 36.25 minutes. Each session lasted between 28 to 48 minutes, depending on the depth of participant responses.

3.2 Data Analysis

Before analyzing the interviews, all recordings' audio files were transcribed using the Transcribe feature in Microsoft Word, then manually reviewed, corrected, and anonymized for greater accuracy and privacy. To proceed with interpreting the transcribed data, we approached the task employing a thematic analysis, following Braun and Clarke's (2006) six-phase framework [76]. The thematic analysis was chosen because it is a flexible method that offers an effective way to systematically work through a large qualitative data set, recognize recurring patterns across oral accounts of multiple borrowers, and capture insights and prominent ideas from the pool of data [76].

As a first step in the thematic analysis, we got ourselves familiarized with the data through multiple transcript readings and preliminary notes on the impressions and emerging patterns. After initial immersion in the transcript content, we started consistently tagging key excerpts from each interview with codes that convey recurring borrower sentiments. For instance, codes like "*phone calls' dominance*," "*email preferred by some*," "*lack of clear step-by-step*," "*loan officer's support*," and "*insufficient explanations given*" were used to comprehend the communication borrowers had with banks. To give some other examples, "*strict documentation review*" was flagged in relation to document handling, "*calculator accuracy questioned*" was identified as part of the digital application experience, and "*stress due to unknown process*" and "*reassurance from peer support*" were recognized to portray borrowers' emotional experience.

Once the initial codes were generated, we moved on with theme identification, trying to group the related codes under the common theme. One theme came up from how borrowers evaluate their bank options and what drives their decision, so we put together "*interest rate priority,*" "*comparison with multiple banks,*" "*negotiation attempts*," and "*trusted home bank*" under a

single set. Following the search for themes, we refined the outlined codes to verify that we avoided internal overlaps and misalignments with themes and updated the names and meanings of each theme and code to closely match the interview data on borrowers' experiences. As a result, we ended up with six overarching themes across the 12 interviews relevant to the research objective and extracted illustrative quotes to back up highlighted codes under these themes.

The thematic analysis findings are described more concretely in Chapter 4. Figure 7 below displays the final themes found within the analyzed data.

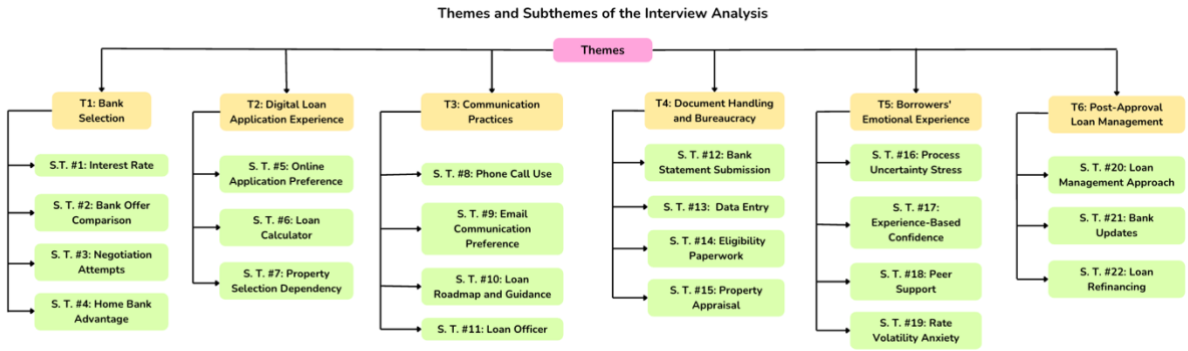

Figure 7. Themes and Subthemes of the Interview Analysis.

3.3 Deriving Recommendations

The third and final step in this research involved translating the findings from the thematic and competitor analyses into practical, customer-centric recommendations aimed at improving the digital mortgage application process for borrowers in the Baltic region. Building on data collection and data analysis, we derived recommendations by synthesizing empirical findings from two sources: our thematic analysis of interviews with mortgage borrowers and the competitor analysis of mortgage webpages from Baltic banks.

Borrower interviews were analyzed for themes reflecting frustrations, barriers, unmet needs, and gaps in information or customer service encountered at various stages of the mortgage process. Although the interview protocol did not explicitly ask participants to design ideal solutions, numerous borrowers voiced suggestions or pointed to specific improvements that could have eased their experience. The insights from the thematic analysis were used to identify common patterns of user pain points, which could serve as input for customer-centric improvement of the mortgage application process.

The evaluation of the mortgage webpages of 10 banks operating in Estonia, Latvia, and Lithuania further provided valuable context for the early stages of the borrower journey, such as pre-application information search. We tracked 40 distinct content elements and features, identifying commonalities and standout practices in how banks communicate mortgage information. The competitor analysis revealed areas where users may face confusion or a lack of guidance and standard practices for empowering the borrowers to make informed decisions,

which together contribute to the formulation of recommendations for improving customer-centricity of the mortgage process.

To determine which insights should form the basis of final recommendations, we applied a set of prioritization criteria. First, we assigned a higher priority to issues and experiences mentioned by multiple borrowers since their recurrence suggests a broader relevance to the mortgage clients. Second, we assessed the outlined issues in terms of the potential to improve customer satisfaction. Third, we also considered the extent to which banks had control over the issue and the feasibility of the solution's implementation. Finally, we grounded the recommendations in academic literature on customer-centric process improvement to align them with established design heuristics. To support every recommendation, we checked whether it is traceable to a specific user need, backed up by evidence from interview quotes or competitor analysis patterns, adaptable within the operational and regulatory constraints of the banks, and impactful to the customer-centricity of the mortgage process. In addition, we grouped the related insights into thematic clusters to mirror the main stages of the customer journey through the mortgage process: 1) Bank discovery and mortgage research, 2) Mortgage application process, and 3) Ongoing mortgage management. Each recommendation within each cluster was ordered based on the severity of the issue it addresses and the potential impact of resolving it.

4 Results

This chapter presents the empirical findings of the study, derived from two key sources: a competitor analysis of mortgage webpages across Baltic banks and a thematic analysis of semi-structured interviews with mortgage borrowers.

4.1 Competitor Analysis Findings

The competitor analysis of mortgage webpages from ten banks operating in Estonia, Latvia, and Lithuania uncovered several recurring patterns and disparities in the digital presentation of mortgage-related information and functionalities to prospective borrowers. We identified 40 distinct elements related to mortgages across the banks, which we categorized into seven groups: user interface, loan information and details, calculators and tools, loan application, insurance, customer support and communication, and additional services and offers. Please refer to Appendix III for the competitor analysis table, also available online as a Google Sheets spreadsheet and as a separately uploaded supplementary material for this master's thesis. The information in the table was last updated and verified for accuracy on May 5, 2025.

A first observation reveals that **most banks consistently provide certain key information and functionalities on their mortgage webpages**, but often the information is fragmented or lacks details. The elements that typically appear across the majority of Baltic banks include:

- A **loan overview** section outlining mortgage basics (found in 10 out of 10 banks);
- **Terms and conditions** (found in 10 out of 10 banks);
- **Euribor information** and general **interest rate** details (found in 10 out of 10 banks, but mainly on a separate webpage);

- A **monthly payment calculator** (found in 10 out of 10 banks);
- A **maximum borrowing limit calculator** (found in 9 out of 10 banks)**;**
- **Application process description** (found in 10 out of 10 banks);
- **Required documents for loan application** (found in 6 out of 10 banks);
- **Price list** (found in 10 out of 10 banks, but 7 times on a separate webpage in a linked document format);
- A **typical example of an annual percentage rate of charge** (found in 10 out of 10 banks);
- **Legal disclaimers** (found in 10 out of 10 banks);
- **Collateral insurance information** (found in 10 out of 10 banks, but 7 times on a separate webpage);
- **Loan refinancing information** (found in 10 out of 10 banks, but half of the time on a separate webpage);
- **Precontractual information** (found in 9 out of 10 banks, but 8 times on a separate webpage in a linked document format);

These recurring elements reflect a shared effort to meet regulatory transparency requirements and assist users in estimating loan affordability and better understanding the mortgage process. Often, these elements provide essential details for homebuyers researching mortgage options online. However, **the level of detail and ease of navigation vary significantly across banks**. For example, the illustration of steps in the application process description tends to be simplified and ambiguous in many banks. At the same time, banks are less consistent in specifying information about considerations for building or reconstructing a house. Only LHV, Swedbank, SEB, and Coop offer proper guidance for borrowers wishing to construct their homes instead of purchasing. Finally, LHV uniquely features an interactive home-buying planner to help borrowers understand their progress on the journey to becoming homeowners.

All reviewed banks offer at least a monthly payment calculator and a maximum borrowing limit calculator, with the exception of Holm Bank. These calculators are essential for understanding the nuances of mortgages and supporting borrowers' decision-making during the early application stage. Swedbank stands out for additionally having a specialized home exchange calculator for individuals looking to swap their current property for a new home. SEB also includes a unique calculator to estimate notary and state fees related to property purchases, while other banks usually only briefly address this topic in their text, if at all. **The level of customization available for preliminary calculations varies as well**. Only LHV, SEB, Coop, Bigbank, Artea, and URBO allow users to choose between an annuity and a linear loan repayment method comparison in their calculators. The limited functionality and lack of input parameters may hinder borrowers' ability to estimate their loan eligibility. Even fewer banks assist users in determining if a mortgage loan is well-suited to their needs. Swedbank, SEB, Coop, Luminor, Holm, and Citadele offer a comparison of various loans, with 5 out of 7 cases displayed on a separate page for users to review.

The reviewed banks demonstrate a strong commitment to digitizing their mortgage application processes. All banks repeatedly and prominently feature application buttons on

their mortgage webpages, except for Artea, which encourages users to contact them first via email, phone, or by visiting a customer service point to initiate a conversation, although they still offer an option to submit requests online. This trend matches borrower preferences for avoiding branch visits and simplifies the initial steps for potential borrowers. Swedbank, SEB, and Coop take it a step further by allowing online visitors to schedule a loan consultation with a representative directly from the mortgage webpage. The mortgage information provided on the banks' webpages additionally supports the digital-first approach, enabling borrowers to browse loan details and get to know the mortgage process flexibly whenever they want to.

While all the banks showcase illustrative banners and maintain consistent brand aesthetics across their mortgage webpages, **there is variation in the clarity of the visual layout and the amount of information centralized on the main mortgage landing page versus spread across subpages or PDFs**. For example, SEB consolidates as many core details as possible onto a single webpage, whereas the mortgage content at Luminor, Bigbank, and Holm is distributed across multiple webpages and downloadable resources, which in turn influence the visual hierarchy and content layout. LHV stands out as the only bank that has included a quick navigation bar at the top of the webpage for its structured breakdown, enhancing the discoverability of information.

Banks actively promote incentivized loan programs on their mortgage webpages. Eight out of ten banks, excluding Artea and URBO, provide information on EIS (KredEx) housing loan guarantees or similar state-backed schemes for homebuyers to raise awareness of their options. Likewise, all banks list acceptable real estate appraisers on their webpages, although half of them are referenced on external webpages. Bigbank and Holm, meanwhile, highlight only one real estate appraiser on their pages. All banks also engage in cross-selling their other products and services, urging customers to consider insurance and consumer loans. In contrast, only LHV, Swedbank, SEB, Coop, and Luminor showcase special offers for energy-efficient homes. Even less frequently, banks include direct references to real estate websites on their mortgage webpages. Swedbank and Luminor were the only ones explicitly displaying real estate offers on their websites.

Banks universally provide customer support details on their mortgage webpages and similarly feature FAQ sections that offer self-service possibilities. However, only a handful of banks, including LHV, SEB, Coop, and Citadele, enable conversations through virtual chatbots on their sites, which means users will likely need to reach out to the bank via more traditional communication channels for assistance. In most instances, borrowers can also easily find access to a downloadable borrower's reminder about mortgage. Nine out of 10 banks make it available, but largely as a separate document. Pledgor's and guarantor's reminders are less common; the former is mainly incorporated as part of the borrower's reminder since the purchased property almost always serves as collateral for the bank, while the latter is almost absent and only mentioned by Luminor, Bigbank, and Holm. Conversely, all bank websites, except for Bigbank, contained some information about downloading their mobile app. It is also worth noting that Coop was the only bank that openly shared the contact information of their loan officers.

4.2 Thematic Analysis Findings

Twelve semi-structured interviews were conducted and evaluated using thematic analysis to explore the mortgage experience of borrowers in the Baltic states. Through the analysis of interviews, we learned more about borrowers' perceptions, behaviors, challenges, and needs at various stages of the mortgage process, from bank selection and digital application to post-approval engagement. The findings from the thematic analysis were organized into six overarching themes, each containing several subthemes that expand our understanding of the practical and emotional factors influencing the borrower experience in the Baltic mortgage market. Please see Appendix IV for the thematic analysis table, which is also accessible online as a Google Sheets spreadsheet and as a separately uploaded supplementary material for this master's thesis.

4.2.1 Bank Selection

The interviews showed borrowers have applied a pragmatic approach when choosing a bank for their mortgages. Borrowers generally focus on financial factors, especially interest rates and other associated loan costs. Most of them actively gathered multiple offers from different banks and used those to negotiate favorable mortgage conditions for themselves. However, even though they were very practical about financial details, many borrowers still preferred or at least considered sticking with their home banks due to perceived comfort with existing banking arrangements, past experiences, and established trust, highlighting that their decisions were more nuanced and not purely bound by financial incentives.

Interest Rate

Interest rates stood out as the most important factor for borrowers when picking a bank. Interviewees regularly stressed that getting the best possible interest rate mattered the most because it directly impacted their finances. One borrower summarized this concisely: "*For me, it was purely the interest rates all three times*" [IP-6].

Another borrower also demonstrated a similar rationale, carefully comparing banks based on the attractiveness of interest rates: "*The interest rate was the main thing, but the standard 30-year loan period was also what we were looking for. We excluded two or three banks based on the interest rates and what we had seen in this Facebook group about the interest rates being higher there in general, so in the end, we were just between these two big banks, weighing the pros and cons*" [IP-11]. This suggests that **interest rates usually hold the top priority and become a primary comparison point when borrowers decide which bank to choose for their mortgage.** Prevalent prioritization of securing the lowest interest rates also underscores that borrowers are aware of the long-term financial impact of their choices and try to keep their loan costs manageable.

Other Selection Criteria

While interest rates are a primary focus, **some borrowers also considered additional factors** during the bank selection and were not necessarily influenced only by the best loan offer:

- **Flexibility of Euribor recalculation period** - "*The reasoning behind my final decision-making was the low interest rate, and the second factor was that I could go with the three-month Euribor recalculation.*" [IP-3];
- **Customer service and empathy** - "*The major factor was the customer support. The expertise and empathy I got from the loan manager were incomparable to others, so I was ready to pay a bit more than I had to pay other banks."* [IP-2];
- **Speed and convenience:** "*I actually didn't even consider different options. I just called my bank and said I needed a loan, and they gave me a pretty instant answer, although I did have a lengthy negotiation with them. I took an hour to do some shopping around and went calculating loans. So many other bank websites had these Byzantine, slow forms you had to fill, so I just felt like I was going to save 0.2%. I make enough money, and this amount is so meaningless to me that I just felt I didn't want to waste my time*" [IP-10];
- **Costs and fees associated with the mortgage** - "*I was just looking for the best interest rate, but also the costs of associated home loan fees were among the important factors*" [IP-7];
- **Down payment requirements** ("*The first thing was the interest rate, and of course, it's also important how much down payment they request at first.*" [IP-8]);
- **Trust and familiarity** ("*We approached choosing the bank by sending applications to different banks right away because we wanted to see where we would get the best answer. My home bank was definitely one of them, and I was hoping that maybe if they made a good offer, I would love to stay in the same bank.*" [IP-12]);
- **Specific loan features and other financial products like repayment insurance** ("*Of course, it was the interest rate, and my home bank also offered a very good insurance deal, which was important for me at that time, so I could feel safe in case of anything*" [IP-5]).

Bank Offer Comparison

Many borrowers submitted loan applications or initial inquiries to several banks simultaneously to collect and evaluate multiple preliminary loan offers and find the best deal, so they approached around 3-4 banks on average. Comparing the offers received from different banks helped the borrowers feel more confident about getting beneficial loan terms and informed about their choices on the market. One interviewee described how they methodically requested multiple initial loan proposals: "*Back in the first and second times, I asked and checked the offers from all the banks and then chose the best one. For the third time, I skipped one bank because they gave me a hideously bad interest rate the previous two times, so I wasn't even interested in contacting them. I didn't care enough to go through the process at one more bank because their process for me has been quite difficult in the past, and they asked for more details than the other banks*" [IP-6].

Another interviewee confirmed that the **financial benefit is one of the primary aspects in mortgage comparisons**: "*Our main decision criteria were who makes the best offer and also has the best conditions because it depends, for example, if the bank asks you to transfer your*

salary there, and so on. But firstly, we just knew that we were going to take several offers to see who had the best margins" [IP-12]. Lastly, **borrowers often relied on competitive offers strategically to provide room for negotiations with the banks:** "*I heard from my friends and relatives who had taken out loans before that you definitely need to branch out. You need to collect every single offer and then try to haggle with them, which I did, and I think I got a decent rate at the end*" [IP-1].

Negotiation Attempts

Borrowers gained significant leverage in negotiating better mortgage terms by collecting offers from various banks. Instead of simply accepting the initial proposals, **interviewees acted actively by negotiating with banks, often aiming to secure better conditions** from their preferred lenders, which frequently turned out to be their home banks. One of the interviewees explained how their **negotiation tactic persuaded the bank to improve their offer**: "*Initially, the home bank had one of the worst offers, despite the fact that I was their client since the beginning. So, then, there were a lot of negotiations. Another bank gave an actually good interest rate and waived some fees if I also took a credit card and moved my salary to them. It was only after I informed my home bank that I was moving wherever the best deal was that they finally matched the deal offered by another bank*" [IP-7]. One more interviewee had a similar experience, underlining how effective using market competition could be in negotiations: "*I got a slightly higher-than-average offer from my loan officer at my home bank, and then I went to other banks. I collected all the other offers that I was never going to go for because I knew for sure that I wanted to stay in my home bank, but I just needed those other offers to get a better rate from my home bank*" [IP-1].

While some negotiations were successful, others stalled, and borrowers sometimes chose a different bank with a better overall offer: "*I tried to negotiate with another bank that I preferred because of their ongoing campaign, but they didn't agree with my terms and wanted me to pay a higher down payment while offering a lower loan amount, so in the end, I had to go with my home bank*" [IP-8]. **The level of effort borrowers were willing to put into negotiations varied** and depended on factors like convenience, perceived benefits, and past experiences: "*Over three times, I did learn to negotiate better. The first time, I didn't realize I could negotiate the interest rate to get it even better. Now, I just pitted two banks against each other. I asked the banks if they could match the offer and also get rid of the contract fee. I mean, it's a negotiating tactic. They can't give you the best offer straight off the bat."* [IP-6].

Home Bank Advantage

Despite thorough market research and negotiations, **many participants preferred staying with their current banks due to convenience, familiarity, and trust**. This choice often involved balancing financial benefits with the comfort of daily banking and loan management. An interviewee elaborated on this: "*Deep down, I knew that I was just too lazy to try to manage a two-bank lifestyle, and I wanted to stay at my home bank because my everyday banking was already there, but I was still going to try to get offers from other banks just to haggle with my home bank and get the interest rate down*" [IP-1]. Another borrower pointed out how trust and familiarity played a significant role in his decision: "*There was also one bank that gave a decent*

offer, but we just didn't have a history with this bank and having heard of less than optimal customer service and daily banking operations, we just disregarded it" [IP-11]. While borrowers do their due diligence by comparing offers, the home bank constantly gets the first opportunity and a chance to retain the customer due to these inherent advantages. More comments revealed that **borrower decisions were not only financially driven but also swayed by comfort and emotional reassurance they were looking for**: "*I didn't feel stressed with my home bank, but felt a little upset with the other one because they didn't actually seem to want me as their client; they didn't try to negotiate and were asking a higher interest rate and a bigger down payment, which I didn't find reasonable. And the third bank was too late in response to my request. Ideally, if all the calculations were pointing towards it, I would like to choose my home bank so I don't need to deal with additional steps, passing my account statement, etc. So if it were only a small difference, I would go with my home bank*" [IP-8].

In some cases, the financial incentives can still outweigh the home bank preference, as described by one interviewee: "*I sent the same letter requests with the property I would like to buy to all the banks I could find that provide home loans, so there were 7-8 banks. I wanted to gather the best options, go to my home bank to share the best offer I got on the market, and ask them if they could match it or not. My home bank didn't match the best offer I got on the market. Since the interest rate was basically the only thing that interested me, I went to another bank and switched*" [IP-4]. Nevertheless, convenience stemming from existing accounts and familiarity with processes, trust built over time through previous interactions, and the ease of dealing with a known entity are key reasons why borrowers often favor their home bank for mortgages even when better financial terms are available elsewhere, as highlighted by the same interviewee who did not select the home bank: "*I wanted to go with my home bank because it would be more convenient to do the paperwork since I already had an account there. They already know basically everything about me. It's easier to send the statements and everything like that*" [IP-4].

Overall, the theme of Bank Selection shows practical strategies that borrowers employ to obtain the best possible financial terms for their mortgages, focusing mainly on interest rates and using negotiations based on market competition. However, their consistent preference for familiar banks highlights how convenience and established trust serve as a counterweight to the pursue of the best financial deal.

4.2.2 Digital Loan Application Experience

The interviewees generally spoke highly of the convenience, efficiency, and accessibility of the digital loan application. However, they also could not ignore certain limitations, particularly regarding the accuracy of online calculators and the need to have specific property details during the pre-approval stage. These factors introduced challenges that partially affected the overall user experience.

Online Application Preference

Most borrowers expressed a preference for digital platforms due to the convenience and flexibility they offer. Online applications enabled participants to easily submit and manage their loan applications, significantly saving time and minimizing the discomfort associated with traditional in-person bank visits. **Several borrowers found the initial application process through online forms to be easy and quick**: "*Each bank that I contacted had a very simple, easy-to-use online form that you just fill out, and sometime after, a bank representative would send you an email, replying whether you are pre-approved or not. It was way easier and way more comfortable than I thought it would be.*" [IP-1]. **The ability to explore their options and manage applications flexibly** without being tied to the operating hours or physical locations of bank branches was also valued. Borrowers could fill out forms and submit initial information at their own pace, as one interviewee illustrated: "*I didn't go to a branch. It was all online. I hate visiting banks in person because it feels like the person just wants to earn a salary and doesn't let you go out of the bank asking all these questions, so I prefer to do it online. At first, I checked the conditions to understand what I would actually have to pay on top of the money I would transfer to the guy who owns the property. Then, I just went to all those online banks, filled out the applications, and waited for offers*" [IP-7].

Similarly, another borrower stressed **the practical advantage of digital applications, especially the convenience of applying online at any time and from any location**: "*I think overall it's great that all banks have these online forms where you can send your application at your own convenient time and get the offers. Imagine having to schedule the meetings, take the time, and go to five different banks. The first time we considered potentially taking the loan, me and my wife went to the physical office for one of these consulting sessions to talk to the bank representative. It was a very long conversation. And if we had done that several times just to learn that their interest rate is higher than in the other bank, it would have been such a waste of everybody's time. So this was the great advantage of the online system that we could send all the information in advance, the bank personnel could analyze all of it in their own time and then make us an offer, whereas when we went to the physical office, we sat behind the desk and the lady was asking a lot of questions and clarifications to input the details into the computer, which felt pretty awkward. We didn't want to go back to the physical office when we thought that maybe now was a good time to use our disposable income and buy real estate*" [IP-11]. Such comments indicate that borrowers enjoy digital platforms' efficiency and flexibility, facilitating smoother and less stressful experiences when applying for mortgages. While some later stages involved phone calls or even video calls for clarifications or electronic signatures, the initial application is mainly digital, meaning the online approach streamlines preliminary information gathering and first contact with the bank for many borrowers.

Loan Calculator

Borrowers widely used loan calculators on bank websites during the application process. Interviewees often appreciated the immediate clarity these calculators provided, though several noted limitations, particularly related to accuracy and the fluctuating nature of interest rates. **Online loan calculators serve as a preliminary tool for borrowers to understand potential loan limits of how much money they could borrow** ("*I think the calculators are most useful*

for understanding what the loan limit is and what the price range I should be looking for." [IP-6]), **determine the affordability of certain property** ("*I think the first step for us was looking through the different loans, checking out the loan pages of the banks, and trying out the loan calculators to see how big a loan we could even afford.*" [IP-12]), **compare initial estimates across different banks** ("*We both tried to calculate potential loan amounts initially ourselves using whatever online forms different banks had, and then sent inquiries to get the offers for a home loan*." [IP-11]), and **get a general idea of potential monthly repayments** ("*I was doing the calculations, trying to understand how much I will pay every month. Based on these monthly installments, I was selecting the best bank because the monthly payment amount I would have given in the beginning during the first two years of the transition period was important for me.*" [IP-8]).

However, a recurring theme across several interviews was the limited accuracy of these online loan calculators, since borrowers also reported some limitations in the calculators' reliability. An interviewee pointed out that **calculators provide preliminary figures that often differ from the actual tailored offers based on individual financial situations**: "*You can use the calculators on webpages of all the banks, but they are so preliminary that you don't get an idea of how much you actually can get. So basically, if you write to banks. They look at your bank statement, and they make a tailor-made offer. So, the calculators that you can find on the webpages are useless and not very accurate, especially with interest rates*" [IP-4]. Another interviewee also observed **the inaccuracy with monthly repayment estimation on account of the fluctuating nature of interest rates over time**: "*I think they are not always super accurate in estimating the monthly repayments because I can choose the interest rate to kind of grasp my repayments, but the Euribor is always changing. So I think for me, it was more about understanding the borrowing capacity rather than what the repayments will be*" [IP-6]. Despite the limitations over accuracy concerns raised by some, borrowers acknowledged that digital loan calculators are helpful starting points for a broad understanding of their borrowing capacity and the range of property prices they could consider.

Property Selection Dependency

During the interviews, borrowers also voiced frustration regarding the bank's requirement for specific property information early in the mortgage application process. **Borrowers felt restrained by this dependency on identifying a property in assessing their financial options.** One interviewee explained prospective homebuyers' challenges: "*To get any information about how much you can borrow and so on, you have to submit an application with a link to the apartment. You cannot just approach the bank and enquire how much you could obtain as a loan. They direct you to the application webpage instead. Basically, you find the property, provide the link to its listing in the application, and then they review your details*" [IP-9]. Additionally, another borrower remarked on the **uncertainty in understanding the optimal sequence of actions due to property selection requirements**: "*It was actually a bit confusing when we were considering what should be the first step because some people told us to apply before we even have the apartment because it can take time, and then by the time we need to make a deal, it's good if you have the confirmation that you can get the loan. On the other hand, banks want you to link the apartment when you make the application, so we didn't*

know what the first step should be. What we finally did was we applied at first for another apartment than the one we bought in the end, but it was quite similar in terms of price range. Then, somewhere through the process before our loan was approved, we changed the apartment we wanted to buy and sent the bank a new link" [IP-12]. The dependency on having a specific property in mind before receiving detailed financial guidance can be frustrating because it might require borrowers to invest time and effort in searching for and potentially making offers on properties without a firm understanding of their borrowing capacity.

To recap the Digital Loan Application Experience theme, borrowers typically find online loan applications useful for their convenience and flexibility. It is worthwhile, nevertheless, to consider improving the accuracy of online loan calculators and easing the property requirement for prospective borrowers applying for a mortgage.

4.2.3 Communication Practices

The interviews uncovered that effective communication is crucial in shaping positive experiences for borrowers during the mortgage process. Borrowers praised clear, proactive, and personalized communication, particularly noting the importance of human interaction in clarifying questions, resolving uncertainties, and boosting confidence about making decisions. The communication style, responsiveness, and empathy of bank representatives, namely assigned loan officers, greatly influenced borrowers' satisfaction with their experience across the board.

Phone Call Use

Even with much of the application process happening online and closely integrating digital communication channels, **phone calls surprisingly remained a common method for quick discussions and urgent clarifications between borrowers and bank representatives after filling out an initial online application**. As one interviewee put it: "*We sent the initial application, and we got the offers from the banks, which we discussed internally. Then, we have been in contact with the banks, clarifying various details and asking if there was flexibility regarding certain aspects. That's when I had these phone calls with our home bank. I mostly remember being in touch with the home loan officer via phone once the initial offers came, and then if we made any adjustments, we received the confirmations via follow-up emails.*" [IP-11].

Borrowers recognized the effectiveness of phone calls for instantly obtaining information and sorting out the more complicated parts of the process: "*They sometimes called us if there was some urgent thing, or when it was something that was easier to explain over the telephone in comparison to email*" [IP-4]. One individual recalled that **phone calls were even used for negotiations**: "*One thing I noticed is that everybody just calls you. They do not communicate via email, and they just call you and negotiate on the phone. Maybe this was the best case for me because I negotiated a good deal, and maybe it wouldn't work out through emails, but I don't know*" [IP-7]. Some borrowers felt more at ease thanks to the personal element that came with speaking directly to someone. Still, a few interviewees perceived phone calls as somewhat intrusive when unavailable or overwhelming when they preferred to have

written documentation. One borrower shared mixed feelings: "*They always called, and they always called you during the day, which wasn't super convenient, but it's fine. They just ask their questions, and I think they are all pretty much the same in the sense of how they contact you*" [IP-6].

Email Communication Preference

Although the practice of using phone calls was relatively standard and effective in specific scenarios, many interviewees, in fact, preferred written, asynchronous communication like emails. Borrowers had various reasons in favor of emails as a mode of communication. Several responses make it clear that **emailing allows for a written record of discussions, so it is possible to review complex details, refer back to these documented details later if necessary, and avoid misunderstandings:** "*99% of discussions with my home bank were via email, and maybe one or two calls. I think it was good and clear to have the things written. I would be concerned if some important aspects were only available via call because I would not have a record of them. It is also good to have an option for calls if you just want some more information and want to understand something better about the contract or conditions. Then, definitely, I feel it's more useful to have a call, either a regular phone call or a video call, to go through and clarify things. So I think it's good to have both options, but definitely to have the important things in writing*" [IP-12].

It is also apparent that **having a reviewable record translated into better transparency and simplified comparison of bank offers, as argued by one interviewee:** "*We stayed in touch with my loan officer via email, phone, and video call. We emailed at first. Generally, I think email is the best for this sort of business because you can have a proper written overview of different offers from different banks and compare them all at once*" [IP-1]. Sometimes, **email could also substitute for phone calls to give interviewees more control over when to respond to the bank**: "*There were also a lot of phone calls. Most of the banks initially called me by phone. I sent the form to them by email, but they contacted me back by phone. One issue was that when they called me, it wasn't always at the best moment for me to answer them, so I would prefer if they would contact me more by email as well*" [IP-5]. In another case, an interviewee similarly articulated their **email preference to avoid the pressure of on-the-spot phone negotiations and have more time to weigh offers**: "*Usually, I would prefer emails, but there wasn't an option. You just leave your phone and wait for an agent to call you*" [IP-7]. This implies a sizeable inclination among borrowers toward email communication despite banks normally defaulting to phone interactions.

Loan Roadmap and Guidance

A common view among interviewees was that a **perceived lack of a clear roadmap and proactive guidance from banks during the mortgage process often stirred frustration**. Several interviewees stated their **confusion regarding the step-by-step overview of the process, which left them feeling unsure** and, in some cases, anxious. One borrower captured this sentiment, saying, "*I would love if all the banks sent out clear step-by-step instructions on what will happen at what stage, and these should be given right after the initial loan application. I would really like it if all the banks provided the roadmap because only two banks*

did, meaning that I understood what I had to do, but if I had only sent my application to a few other banks, then I wouldn't have gotten this roadmap, and then this whole process would have been a bigger headache than it already was" [IP-3]. It is evident that **a comprehensive overview of the loan journey is helpful from the outset, and so is the external guidance**, as marked by another interviewee: "*Before I started the whole process, I didn't have a clear roadmap of the journey, and at some point, of course, it's better to know what comes next. On the other hand, I was really lucky because of my seller, who took care of lots of things and furthermore gave me information on how to have the contracts with the electricity company and the water company, re-register everything under my name, and stuff like that. It really matters a lot*" [IP-2]. A different interviewee echoed the view that their **bank failed to guide them as a borrower through the subsequent steps, but more concretely at the post-approval stage**: "*A bank is a business, so I guess they really made sure that it's an easy process for me to take out a loan and for them to get my money. But what's slightly confusing to me is everything that comes after taking out the loan. I feel like I have been stranded in terms of information. I thought that I would get regular overviews of how much my loan has been paid back, what the monthly Euribor rates are. I would really like to get some information*" [IP-1].

Conversely, **some borrowers had more positive experiences and found the process was straightforward**: "I think the process was clear. That wasn't an issue. They are quite good at guiding you through that" [IP-11]. Yet even then, **some participants elaborated further and clarified their wish for greater transparency**, "It's *not really difficult to understand the process; it's quite well stated on the banks' webpages. I would just really like to say that the process itself would be a lot more convenient for people and better in general if it was more transparent, so banks would actually say why exactly they make a decision or why exactly they need this piece of information that they're asking you for. All they usually say is that I need to do something because of this paragraph in the regulation or bank policy that they point out, and it's not only an issue with my current bank, but it's an issue with all banks*" [IP-4]. This indicates that while transparent and well-supported communication considerably enhances borrower satisfaction, inconsistency in providing this level of guidance remains a substantial pain point.

Loan Officer

It would be an understatement to say that loan officers impacted the borrowers and their loan experience to a great degree. **Borrowers with strong, personal support from a loan officer frequently spoke positively about their experience**. Numerous interviewees highlighted feeling less stressed and more confident when bank representatives were empathetic, attentive, and took the time to consult them. In their portrayal of the guidance provided by the loan officer through the application process, one interviewee said: "*The home loan officer was helping me a lot. She was guiding me all the way till the end, including the insurance. The bank offered their home insurance and also suggested other companies. They guided me through all the mandatory steps so that I would not be tricked by anyone, and they were helpful*" [IP-2]. Another borrower was grateful for having a designated contact person, which helped make the process more manageable: "W*e had a nice talk with a home loan officer. She was very helpful. She explained everything to me with patience and it felt very friendly and very honest as well*"

[IP-8]. The interviews also suggest that **the expertise and personal touch of a loan officer contribute a great deal to addressing concerns and offering emotional support to the borrowers**, taking a life-changing step: "*I think for first-time homebuyers, the big part is managing your fears and getting personalized support means a lot, so that you feel the loan officer is your partner and they are not trying to scam you or somehow take your money. I think it's really important, also, the kind of attitude and treatment you get. On the one hand, you want to automate as much as possible, for example, the document part, but I wouldn't remove this human support because it's also very valuable*" [IP-12]. These accounts show that **when bank representatives put effort into building trust, offering clarity and emotional security, and treating borrowers as individuals rather than cases, it dramatically improves the borrower's emotional journey and increases satisfaction**.

However**, not all borrowers encountered this level of support in navigating the complexities of a mortgage, implying a discrepancy in the consistency of service across banks or even between specifically assigned persons.** Talking about this issue, an interviewee reflected: "*As you know, there are two types of mortgages offered in Estonia: annuity and linear. The linear is not a very popular option, but I wanted to go for it because it is supposedly more beneficial to the loan taker if you know for sure that you want to sell your apartment in five years or a short time in general. I wanted to go for the linear one, but then my loan officer talked me out of it. I don't remember how he did that, but I remember coming back from this call feeling like shit. He probably just wanted a better deal for the bank because an annuity brings the bank slightly more money in interest payments. The loan officer didn't strike me as a trustworthy guy. He really wanted to sign me up on a ton of credit cards and insurance and talked me out of my preferred mortgage type, so I had a weird feeling about him*" [IP-1].

Together, these responses provide important insights into how adequate communication lays the foundation for a positive borrower's experience. Many valued the human side of the interactions, whether that meant a helpful loan officer, a quick phone call, or a clearly written email. Some borrowers, nonetheless, ran into frustrating misunderstandings that occurred due to unclear process roadmaps and a lack of proper guidance, which presents an opportunity for banks to look into revising certain aspects of the mortgage journey.

4.2.4 Document Handling and Bureaucracy

The interviews revealed that borrowers repeatedly hinted at dissatisfaction with various bureaucratic challenges and friction related to burdensome document handling. The mortgage application process still required manual and repetitive document submissions, responding to additional eligibility requests, and dealing with appraisal or seller-related issues. Many participants found these requirements either confusing, excessive, or time-consuming, especially when they expected things to be simpler or more automatic.

Bank Statement Submission

A recurring source of annoyance among most borrowers was the need to collect and submit bank statements manually, often more than once, and to multiple banks. Borrowers applying to several banks had to repeat this step numerous times, which many found frustrating and tedious. One interviewee articulated this nuisance vividly: "*I think the most annoying part was when you had to send the statements from the other banks, and they wanted all this information. This took the most time since you had to do it for the different banks. Sometimes, it was enough that you downloaded the statements once, but then at least one bank asked you to export from somewhere else. So this is what was annoying*" [IP-12]. This highlights how the requirement to compile information from multiple sources can lead to redundancy in efforts and extend the application process.

Another individual reiterated the inconvenience of repeatedly extracting and providing bank statements and presented the disparity in implementing integration features across banks, hoping it could be better optimized via automatic systems for data retrieval: "*The only thing that I had problems with at the beginning was getting the exports from all the banks because I have three different bank accounts, so exporting the bank statements for the last six months for the application was annoying. What I really enjoyed was not needing to manually send my bank statements to one bank, which had some sort of an integration that took that data automatically from another bank when I gave them access, and that was amazing. But, for example, the bank I eventually went to just wanted me to email my bank statements to them. That was really old school, which I found weird, but I did it anyway, and that is who I am with currently.*" [IP-3]. It is important to note that this friction in the application process was not universally encountered. Borrowers exploring multiple banking options simultaneously tend to feel the burden of manual submissions more acutely than those approaching the process with fewer banking relationships.

Data Entry

It was not the manual bank statement submission alone that was cumbersome for borrowers during the application process, since **another pain point came up when they had to reenter and resubmit the same personal, financial, and property details for each bank they contacted, signaling the issue with duplicate data entry**. One interviewee recounted the absurdity of submitting identical documents to each lender separately: "*I submitted documents to two banks, and I remember it was silly that I had to do it twice for both of these banks. The first time I submitted bank statements, it was fine with both of the banks because they use some API that connects the data after you log in. Still, they don't have a connection with Wise, so I had to download the PDF statement from there and send it to them, which is interesting because Wise is Estonian, and I assume, at some point, they will have that connection as well. But then, after I sent all of the documents and they gave me the first offer, I had to send all of the documents again, which seemed kind of pointless because nothing much changed within a week. I don't know, but perhaps there's a reason. I don't think they do things just for extra work"* [IP-6]. Another person reinforced the idea that the data entry process could be streamlined through technological integration to circumvent an additional layer of complexity that comes with more paperwork: "*The environments in which I applied for the loan were quite*

different. In one case, the system was quite straightforward: there was a form that I could fill out to send everything. The other bank needed a lot of papers by email, for example, while another didn't even need so many of them. The thing is, most of them wanted to request documents and ask questions via phone or email. It would be much more convenient to send everything via the form at the very beginning, and then get their proposal for the interest rate and loan in general" [IP-5]. The interviewees' overarching comments exemplify a repetitive nature of sharing personal, financial, and property-related information across banks that not only consumes precious time but also adds unnecessary stress to the already daunting process of securing a mortgage.

Eligibility Paperwork

The interviewees, on the whole, also had to fulfill **additional eligibility paperwork on top of the core personal and financial information** when applying for mortgages. These extra document requests came after the initial online form submission and required **various supplementary proofs, such as educational diplomas and residency permits**, further exacerbating bureaucracy. In one instance, an interviewee had to provide their graduation diploma from a local university because they were using the government housing loan guarantee to reduce their down payment obligation and a right of residence proof for being a foreign citizen: "*After the initial offer, they ask you to send all the documents they have listed, including, for example, my ID and graduation certificate from Estonia. They informed me that I have to be sure, and it's on me to be sure that my residence permit will be extended after five years. This type of bureaucratic stuff, and then you can start negotiating right away*" [IP-2].

At the same time, a different borrower with foreign citizenship found it illogical that their bank continuously asked for evidence of a legitimate stay in the country after obtaining the loan: "*Every few months, they send me an email asking if I'm still in the country or inquiring about the status of my residence permit. I don't understand why they keep asking this because they have access to my bank account. If they see me spending money in Circle K, where would I be? Am I in Japan? I don't think so. I really don't get this*" [IP-10]. Another participant shared a similar sentiment, emphasizing the **difficulty of additional paperwork,** which occasionally left him clueless: "*I had some struggles collecting all those documents. Sometimes, I didn't know where to take them from. For example, it could be on some government website, which I've never used before, and I just had to do research on how to get them. Some of the banks gave me clues about where I could search for them, but some of them just said I need this and this, and do your best. Good luck*" [IP-5].

Several interviewees indicated **banks conducted strict reviews of their submitted bank statements, often requiring explanations for transactions perceived as unclear or suspicious.** Such rigorous scrutiny created additional stress for borrowers, who felt pressure to justify routine financial activities. One borrower narrated their experience as follows: "*To pay the down payment, I needed to borrow from my father. They told me that you can only borrow money from your father for the real estate object you want, only if the down payment you pay isn't borrowed. They wanted my father to send a letter of confirmation to them that the money he gave me wasn't a loan. Also, I didn't think that I would need to clarify so many things about*

my bank statements that I thought were self-explanatory. If there are any transactions higher than a couple of 100 euros, you can be sure that they will ask you about it, or if you transfer money to somebody as well. For example, if you have a relative or any person to whom you send money regularly, like 100 euros every month, then you need to explain that as well" [IP-4]. Some interviewees accepted these requests more easily as part of the standard practices, considering access to potentially better financial terms: "*I have submitted the appraisal document and account statement. They have also asked, in my case specifically, to submit a document to prove the expected salary increase, which contractually states I will start getting more money from a certain date. It was important for the bank to consider that, so they could make a decision on the price limit at which I could buy the apartment*" [IP-8]. Even so, their perspectives demonstrate that a delicate balance between necessary scrutiny and engagement with the borrowers should be maintained.

Property Appraisal

Interviewees reported several instances of frustration regarding property appraisal processes, which sometimes acted as a bottleneck in their mortgage journey. Issues arose due to unclear bank expectations, delays from third-party appraisers, or missing and incomplete documentation from sellers. One source of discontent was directly linked to appraisal costs and the perception of its redundancy. An interviewee who was purchasing a newly built apartment from a construction developer resented **the unreasonably expensive appraisal fee as a prospective homebuyer**: "*I had to pay this real estate company for an appraisal, which feels almost like a scam because every single person interested in buying has to get their appraisal. This means that four or five people have done the appraisal, but they just send you the same thing they have already made and somehow charge you 300 euros*" [IP-10]. It is also not always clear to the borrowers who is responsible for the appraisal, who is supposed to provide and how to obtain it. If, in the case of one interviewee, the seller had already commissioned the evaluation at no cost to the buyer, the previously mentioned borrower alluded to the **lack of direct communication and access to the appraisal report:** "*The apartment appraisal was submitted by the evaluation company straight to the bank. I had to ask them to send it to me. I pay you to evaluate my future house, but then you don't send it to me. That was weird*" [IP-10].

Confusion also arose from the fact that banks are selective regarding real estate appraisers, which some interviewees did not know in advance: "*The banks ask for an appraisal. The learning there was that not all banks accept all appraisal firms. There are some big appraisal firms that usually cost more, which all the banks accept. Then there are some cheaper options that not all banks accept*" [IP-7]. The timing of the appraisal within the loan process was also a factor for borrowers to adjust because **the appraised value directly impacts the loan amount**, as banks generally do not lend more than the evaluated price. If the price of a homebuyer's desired apartment exceeds the appraisal value, the process can be stalled until more funds can be secured. An interviewee verified this in their example: "*I did all the applications at once before the appraisal, and then I did it again after the appraisal*" [IP-3]. Lastly, a few borrowers touched upon **uncertainty and delays due to miscommunications with third parties**, complicating the appraisal stage: "*This current home loan was a little bit complicated because the old owner didn't want to send me the Appraisal Act for whatever*

reason, which I know now. She was a 68-year-old lady, so I didn't want to argue with her about technical stuff because I wanted the house set at a good price. She said that she wanted to send the appraisal act to the bank herself, and then it turned out that the permission to use the house was missing from the appraisal act, which tells whatever institution that the building is built according to the Building Act, and everything is okay. The permission actually existed; it was just in the archives because it was an old house, and the lady didn't bother telling the person who was doing the appraisal that it existed. Anyway, we had a lot of phone calls with banks walking through everything that was wrong and incorrectly documented, and everything turned out to be fine" [IP-6]. The responses spotlight the disruption that appraisal friction can bring to the loan application, which can be mitigated through smooth coordination between sellers, appraisers, and banks.

In summary, borrowers pinpointed friction related to document handling and bureaucratic requirements during the mortgage process. The scrutiny and repeated manual submission of bank statements, duplicative data entry, additional eligibility paperwork, and issues surrounding property appraisals all contributed to borrower frustration. Borrowers also outlined that these friction points could be addressed through better technological integration and transparent communication between all parties involved.

4.2.5 Borrowers' Emotional Experience

The interviews showed that many borrowers emotionally characterized their mortgage experience, displaying a range of feelings at each stage. This emotional dimension is meaningful given that it depicts attitude shifts in borrowers from early confusion and anxiety in first-time homebuyers to growing confidence from prior experience and available support systems. For some, concerns did not even stop at signing the loan contract due to the ongoing worry about changes in the interest rates. These emotional reactions varied in different ways depending on how familiar borrowers were with the process, how much help they had, and the financial environment at the time.

Process-Uncertainty Stress

One of the most common emotional challenges reported by borrowers, particularly first-time home buyers, was the **uncertainty that came from not knowing what to expect next in the mortgage process.** Many individuals described being confused about the sequence of steps, their timing, and the corresponding requirements necessary to proceed through these loan steps. An interviewee articulated this **uncertainty and information overload, facing the technical unknowns of the process and taking into account the financial stakes of the decision**: "You're *embarking on something that you've never done before. It's a big financial commitment in your life, and it has a lot of jargon around it. Probably what helps there is having conversations with friends and family. Maybe there should be an approachable, easy consulting service not associated with the banks so that they can explain to you these things, but those are the sort of concerns and things around this big unknown of what this means and how we go about it. Of course, you can read about all these things and then inform yourself as you take a big step. I guess it's sort of this completely unknown thing you must go through*

because you want to become an apartment owner. You need to get the loan, but then there's a lot of new information and things to orient yourself. It was more on the level of trying to figure out what an interest rate is, what Euribor is, and what earlier repayment is. What are all these insurances they're talking about?" [IP-11].

A similar view of **the emotional weight of responsibility associated with acquiring a home** was observed by a fellow interviewee: "*Generally, buying your first apartment is stressful, and I did feel sometimes there was a lot of that on me because I was the Estonian-speaking one, and so I had to be the one who communicated with everyone, and also shared all the information with my partner. Sometimes, it's very hard to translate things. They do provide documents in English for expats, but in general, this is probably the part that can still be developed because I can see how it can be more stressful for people who don't speak the language*" [IP-12]. The same interviewee also explicitly mentioned feeling particularly stressed at the beginning of the process due to the **uncertainty of aligning timelines and facilitating documents between different parties**: "*I think the beginning was probably the hardest when you don't know some stuff yet, and how to align the timelines. You have to coordinate the things you need to provide to the seller with the things you need to provide and confirm with the bank, so facilitating all these different documents between the different parties was probably the most stressful part. Then, of course, waiting for the commission's decision is also a bit stressful because if we don't get this loan, what do we do?*" [IP-12].

In addition, one borrower drew attention to the **lack of understanding of the length of the entire process and its effect on planning coordination as a homebuyer**: "*I understand the confusion and I understand the stress, but in the end, a bank is a business and they really want to get your money, so they will really do their best to try and guide you as smoothly as possible through this process. That's what I felt. One thing I would have liked to know beforehand is how long exactly this process takes because we lived in the apartment of my girlfriend's parents. We had a stable home and weren't being kicked out in a rush to buy a new home. But let's assume that we lived in a rental and would have had to tell our landlord when our contract would be up and when we would be leaving for our new home. I would not have known how to estimate the exact amount of time that it takes me to actually sign the deed, take out the loan, and then move into my apartment. So I had no idea how much time this all takes*" [IP-1].

Some borrowers managed this stress by reaching out to peers, bank representatives, or real estate professionals: "*A realtor was really good at explaining the whole process, so we didn't really have to think about it, and the appraisal for the home in the first time was done by the developer and in the last time it was done by the old owner, which they sent us for forwarding to the bank. The realtor just gave us a step-by-step overview. The bank's contact people were also helpful. There was also nothing that seemed too much complicated, but we also had professionals helping us.*" [IP-6]. The general sense, however, was that banks could have done more to provide clarity and structure at the beginning of the journey to alleviate homebuyers' avoidable worries and help them cope with emotional challenges.

Experience-Based Confidence

In contrast, **borrowers with previous mortgage experience or finance-related background generally cited a smoother emotional experience with fewer troubles**. They typically knew what to expect from the banks, what questions to ask, and what documents would be needed. One interviewee phrased well how her prior knowledge helped reduce stress and made the whole process feel more manageable as she learned more about the process and how to negotiate with banks: "*The first time, my ex-partner did most of the communication, so it was just opening the bank for me, and I didn't understand half of the words they talked about at the notary. The second time, I still didn't understand some of those words, but it was fine, and now, for the third time, I kind of semi-understand what it means, and I didn't really have any questions. I just said I want this house. These are all my bank statements from all of my banks. This is what I owe for my student loan. Please approve a home loan*" [IP-6].

Familiarity with the mortgage process and occupation in finance likewise contributed to the confidence of another respondent: "*No one really gave me advice, and I understood the process relatively well. I studied finance, and by the time I was applying for a loan, I was already working in finance for several years, so everything was pretty familiar and understandable to me. I have asked my mom, who works in the bank, for advice, but she is not working in the lending department, so she couldn't tell me much. I wouldn't say I had many questions, as I knew how things worked, and whenever I wanted to consult about something, the bank's loan officer was communicating and replying to me. Now is the second time I am applying for the home loan, and I know what to expect, and the system works the same way*" [IP-9]. These examples indicate how experience and professional knowledge instill more confidence in the borrowers, resulting in less stress with mortgage details.

Peer Support

First-time homebuyers who lacked direct experience oftentimes received emotional support, reassurance, and recommendations from friends, colleagues, family members, or online communities throughout their mortgage applications. Borrowers could ease the emotional pressure of the mortgage process, navigate the accompanying complexities, gain practical insights, validate their choices, and feel less alone thanks to consulting with their informal peer network. Several borrowers mentioned turning to personal connections for guidance: "*I definitely discussed with some people, especially when I got the offers, which I shared with my mom. She's working in finance, so I wanted her advice and thoughts on what to pay attention to in the conditions and if there is anything that we should be mindful of. I remember one of my colleagues at the time had a friend who was a loan officer at a bank, so we managed to get in touch with her, and she would handle our case. This was nice in the sense that there was someone familiar, and there was a bit more trust. Otherwise, we mainly talked with some close family members who helped us review it*" [IP-12].

Besides talking to family and colleagues who had recently purchased apartments, **some borrowers also searched for advice in online communities**: "*I got help and learned some things from my colleagues in our daily conversations, and I remember sometimes checking social media groups and learning from the experiences that people shared in the expat*

communities online" [IP-8]. One more interviewee gives another example of the importance of online communities to get a better grasp of current interest rates and the housing market conditions in general: "*I remember we were discussing the interest rates with my parents, and it was just interesting to see my parents' bank loan contracts that they had taken 10 years earlier. I also asked my sister about their house and what loan interest they have. But I think the most useful resource was one Facebook group, where people often asked about and discussed home loans, which gave a ballpark estimate of where we could be with the interest rate*" [IP-11].

Sometimes, **conversations with friends helped borrowers realize what to avoid or be cautious about in their mortgage process**: "*My friend had taken a loan out right before me, so he explained why he chose what he chose and gave some tips. He chose a different bank, not his home bank, so he had to bring his salary into that bank, and they signed him up for a credit card. I thought, you know what, I'm having none of that*" [IP-1]. Other interviewees also pointed out **the benefit of discussing mortgage matters with friends in terms of understanding the value of receiving tailor-made initial offers and negotiations with the banks**: "*I had colleagues who had the experience of getting a loan, and everybody just told me to fill out the application to get an initial offer because loan calculators don't really matter. I also know from my friends' experience who have bought apartments before me that you can even ask for some additional benefits such as gold client status, some cards, or some insurance for free. If you have more time, you can really haggle with banks and get a pretty nice deal out of it*" [IP-2]. All in all, having access to the experiences and insights of a trusted peer offered borrowers valuable support and reassurance that made the mortgage process easier to deal with both emotionally and practically.

Rate Volatility Anxiety

Even after the loan was approved and signed, the emotional stress didn't always disappear for some borrowers. **Several of them said they felt uneasy or worried about fluctuating interest rates, especially when they had chosen floating rates indexed to Euribor**. While some respondents seem less concerned due to the current rate circumstances or their financial situation, the potential for significant changes and the lack of timely information from banks can still trigger anxiety if rates become more volatile or reach significantly higher levels.

One interviewee reflected on **the Euribor-induced concerns when the rates are high and also stated his confusion about how Euribor fluctuations translate to monthly payment differences**: "*The changes in the Euribor rate are currently not so important anymore because the Euribor rate has dropped, but at one point, it was, of course, a bit stressful. At the same time, I was very happy I didn't max out my capabilities of taking a home loan. It was rather a cheap loan, so I wasn't so badly affected by the Euribor rates. One interesting thing in Latvia is that when the Euribor rates went super high, the payment didn't become proportionally higher because some laws or banks' policies state that the increase in monthly repayment could go up to 20%. This means that a bigger proportion of the payment goes towards the interest rate instead of the principal, so at some point, almost all of your entire payment covers the interest rate. The loan principal doesn't get smaller. You're just paying interest rate, and that's*

it" [IP-7]. His experience suggests that actual or potential increases in Euribor rates can lead to stress, especially for borrowers who might be more financially vulnerable. Another participant commented about **being left in the dark regarding the impact of Euribor rate shifts on monthly payments in their individual case**: "*The Euribor rate is updated every six months, but I don't get any notification about it or how it actually affects my loan. The European rate is displayed prominently on the bank's website, but it doesn't pertain to my specific loan, and I don't know when my 6 months are up. I have to calculate for myself when my Euribor actually changes*" [IP-1].

Nevertheless, **even those who receive regular notifications about upcoming interest rate changes sometimes get confused by the ambiguity of the provided information**: "*Our Euribor changes every six months, and we get notifications when the interest rate is about to change because of this. It is a bit strange how they communicate that because, at first, it was not very clear if the change was going to apply to a current month immediately. By now, we figured out that they usually just announce it, and then it gets into effect in the next month. So this communication is a bit messy sometimes, but we do receive these notifications regularly via email and internal bank messages*" [IP-12].

In addition to these, a different interviewee emphasized **a misunderstanding of the monthly payment recalculations and a proactive effort to understand the long-term financial implications of rate changes, which indicates an underlying anxiety about potential increases and their cumulative effect**: "*Euribor is recalculated every 6 months, so I'm paying attention to the Euribor changes in the news. When the Euribor recalculation date approaches, I check how they calculate it and verify with them. The first time they recalculated it, the calculation didn't match what I expected, so I asked them, and they explained their calculation logic, which depends on the number of days in the month. Depending on the days of the month, it can change, and somehow, I pay 5-6 euros more than shown in the loan calculator. It's a small amount that I don't get to the bottom of it. Actually, I would like to have an explanation for that; it is just not worth the energy to spend and find out. I know the amount I will pay for the next 6 months, but starting after that, I don't know how much I will pay. No one knows what the Euribor rate will be at that time. I'm just doing calculations, trying to understand how an increase in the interest rate affects the total interest paid in 30 years. I'm doing different scenario calculations*" [IP-8]. Ultimately, borrowers are prone to worry about fluctuations in Euribor rates and their impact on loan payments, which compels them to monitor the ongoing changes and perform their own calculations actively to manage the uncertainty and achieve a better sense of control over the loans.

Thus, borrowers had different emotional responses depending on their level of knowledge, the clarity of guidance they received, and broader market conditions. Inexperienced borrowers were frequently overwhelmed by the uncertainties of the process, whereas those with previous experience or strong support from peers felt greater confidence and comfort. Even after obtaining a loan, interest rate fluctuations added ongoing stress, underlining the significance of more transparent communication from banks not just during the application stage but throughout the entire duration of the loan.

4.2.6 Post-Approval Loan Management

With favorable terms secured, monthly payments set up, and the paperwork completed, the majority of borrowers found themselves stepping back from actively managing the loan, which began to fade into the background of their daily lives. Without regular updates or nudges from their banks, borrowers usually overlook chances to revisit their loan terms, consider refinancing, or adjust their repayment strategies upon a change in circumstances post-approval.

Loan Management Approach

Many borrowers showcased a distinct trend to adopt a passive approach to their mortgages and regard them as routine. They exhibit little monitoring of loan specifics once the monthly repayments are set up, which is encouraged by the convenience of automatic withdrawals from their accounts and indicative of trust in the banking system. The set-and-forget attitude of one of the interviewees represents the disengagement among borrowers well: "*I don't track my loan. I wanted to take out a loan and forget about it, and so I did. The actual paying is surprisingly easy. I don't do any of the paying, and the bank itself takes the money from my bank account without giving any notification, which is great because I don't want to pay attention to it. The only thing that I needed to be sure of was that I had enough money on that specific date for the bank to take*" [IP-1].

The automatism in the repayments and their self-regulating adjustment to the latest interest rate change disincentivizes borrowers to actively manage or look deeply into loan details after they are finalized: *"We haven't had to manage anything. It's all automatic. The payments go out of my account every month. If the Euribor changes, the bank adjusts it for us. It's almost like investing in index funds, where you put your money there and forget it in a way*" [IP-11]. **The automatic essence of mortgages and the passive management post-approval are also mirrored in the fact that borrowers rarely have to contact banks' customer support.** A couple of instances in which it happened involved changing the loan payment date and notifying the bank about losing a job to enable repayment insurance coverage. The tendency to rely on the banking system to handle significant financial commitments with minimal ongoing effort allows borrowers to cut down periodic reviews of mortgages, even if it might come at the expense of missing an important change or opportunity related to their loans.

Bank Updates

Contrary to the application stage, some borrowers have noted that **communication from banks regarding various aspects of mortgages has become rare following the loan disbursement,** which has left a few feeling uninformed and seeking out information independently**.** For example, the interviewees mentioned that **even important updates like Euribor adjustments directly impacting monthly payment changes are not always proactively communicated**: "*I would still like to know when my Euribor changes drastically. The Euribor that applies to my specific loan is supposed to change every six months. Technically, according to the past year, my loan should have gotten cheaper a little bit, and I would like to have gotten a little*

notification about it, like today your 6-month Euribor has changed, so your loan becomes a little bit cheaper" [IP-1]. **The burden of managing individual finances without sufficient guidance occasionally materialized into unexpected issues affecting the mortgages that could have been avoided had the borrowers been adequately informed by their banks.** One of the interviewees described such an incident of being unaware in the following way: "*The bank doesn't notify me about the Euribor change, and it's fine with my current home loan. I don't really mind because my salary goes to the bank anyway, but I remember that my salary and loan were in different banks during my last loan. Plus, six months is a long time, and it starts from the next month, not the same month you go to the notary. Even though I had an automatic payment to my other account at the beginning of each month, I remember receiving an email at some point in the middle of the month, saying that I owed the bank 100 euros because Euribor had changed. I asked about it because I thought they should notify me. They replied that they don't notify of the Euribor changes. They only notify if the base interest changes, and then everything else should be up to me to know*" [IP-6]. The call for more timely and proactive updates from banks is evident as it could help borrowers stay up-to-date on their loans, relieve concerns related to them, and make better financial decisions to prevent unnecessary troubles.

Loan Refinancing

Some borrowers admit thinking about refinancing to obtain better terms, especially when interest rates on the market decline and they hear about better loan offers available from other banks, **but they mainly delay or abandon the idea despite recognizing potential benefits.** The gap between awareness and action came down to a lack of simple tools for evaluating refinancing options, uncertainty regarding unknown fees and procedures, general comfort with the status quo, and reluctance to restart paperwork. One interviewee shared an example of **showing interest in refinancing but missing out on the opportunity so far because they lack the tools and knowledge to assist with their comparative evaluation**: "*Of course, a bank is not going to provide that, but I would like some information about when I should refinance my loan. One year later, I heard from friends and relatives that Euribor rates had lowered considerably, and maybe I would like to know if this is a good opportunity to try and refinance my loan in a different bank, but there is no central website or tool that allows me to compare different banks' base rates at any given time and maybe the past three-month trend of how the base rates have fluctuated, grown or decreased*" [IP-1].

The lack of follow-through also boiled down to inertia and difficulty in finding time to tackle the perceived hassle: "*For a moment, there was a trend in this Facebook group among people to renegotiate their interest rates, and for a moment, I just had the thought, should I also look into this, or do this? But then, seeing the responses and discussions going on, it didn't seem worthwhile to bother with that. A part of it might be because of how busy our work life is. Sometimes, we just don't have the attention for these things. If I had tried to initiate some change, I don't know whether I could have done all of that online or not. I'd have to look further into that*" [IP-11]. **In some cases, borrowers have not taken serious steps toward refinancing because their current terms are challenging to compete with**: "*I haven't received information about refinancing the loan. I think it goes against their interest, but there*

was a big boom some months ago when everyone said that if you pay more than 2%, you're most likely overpaying and have to refinance it. You have to pay this one-time fee, but in the long term, you will pay a lot less. I got a very good interest rate, considering this house is not A+ energy efficient, older than 40 years old, and so on. I got an interest rate that was considered very good at that time. Currently, I might get a smaller interest rate, but I haven't checked it" [IP-7]. It follows that even borrowers who actively negotiated their original loan terms became passive once their loans were set. Without straightforward guidance, easy ways to check potential savings, and proactive support for initiating the process, the idea of refinancing often was not brought closer to reality.

In general, borrowers became much less engaged with their mortgages after approval. Although the passive approach is common and the lack of banks' proactive communication contributes to it, this attitude discourages exploring refinancing in more detail and poses a risk of overlooking the change in repayments. Even borrowers eager to take a more active role in managing their loans found themselves lacking tools, reminders, or pathways to do so. Supporting borrowers beyond the initial loan signing through regular updates, refinancing simulations, or repayment progress reports could strengthen long-term trust and help borrowers better manage one of their largest financial commitments.

5 Discussion

In this chapter, we address the central research question of this thesis: ***RQ:*** *How can the digital mortgage application process be redesigned to be more customer-centric?* by presenting customer-centric recommendations we derived through the synthesis of empirical findings from thematic analysis of interviews with private mortgage and competitor analysis of Baltic banks' mortgage webpages. Later, we acknowledge several limitations of this study and make recommendations for further research.

5.1 Customer-Centric Recommendations

The present study set out to identify and propose improvements to the digital mortgage application journey. We propose twelve actionable customer-centric recommendations for banks to improve the mortgage process in the Baltic banks. The formulated recommendations are rooted in specific borrower pain points identified through interviews and service delivery gaps observed on Baltic bank websites, as well as the customer-centric design heuristics of Frank et al. (2019) [63]. We grouped recommendations into three thematic clusters representing the main stages of the mortgage process, namely bank discovery and mortgage research, mortgage application process, and ongoing mortgage management. Each recommendation was prioritized based on the frequency with which the issue it aims to solve surfaced among interviewed borrowers and reviewed bank webpages. We also included possible implementation barriers and assumptions about the feasibility of every recommendation, as well as outlined the potential value it possesses for the borrowers. Please turn to Appendix V to read the explanations of customer-centric recommendations for the mortgage process in full detail, which are also available online as a Google Sheets spreadsheet and as a separately uploaded supplementary material for this master's thesis.

The first four recommendations could be used to facilitate borrowers' navigation during the early stage when they start discovering mortgage offers and look into different banks. We suggest that banks consider consolidating all important mortgage details on a single page for ease of access and restructuring the webpage sections to reduce the fragmentation of mortgage information. Almost equally important is to redesign the mortgage application process description so that it can serve as a detailed, step-by-step roadmap adjustable for the needs of a broader range of mortgage borrowers and containing the key mortgage facts to better educate the borrowers on the steps of the mortgage process. Considering the importance prospective borrowers assign to the size of interest rates and the need to estimate loan affordability, our third recommendation for the banks is an advanced, customizable extension of the current monthly payment calculator that would account for an extended selection of parameters to model different mortgage scenarios before beginning an application. To assist prospective borrowers in establishing their creditworthiness and borrowing capacity even more, it is also relatively crucial to enable them to effortlessly submit their data for pre-approval without having a specific property for purchase in mind.

The second set of recommendations is particularly relevant for refining the mortgage application process. Our findings indicate that sending proactive follow-up updates on the

mortgage application status and the remaining steps until the loan approval promotes transparency and allows prospective borrowers to better orient themselves in the mortgage process. Similarly, there is additional evidence in favor of giving prospective borrowers the flexibility of picking a communication channel preference and maintaining a persistent chat for asynchronous conversations with the loan officer. Third, we propose automating the retrieval of bank statement information during this stage to speed up the process and improve the accuracy of submitted data. Besides rethinking the communication practices that banks employ, there is also an opportunity to streamline the property appraisal necessary for loan processing, so we put forward an idea of implementing a property appraisal scheduling widget on the mortgage webpage to reduce the time and effort it takes to initiate the appraisal and make sure that all parties, including the homebuyer, seller, and bank receive property valuation report.

The last four recommendations illustrate how the mortgage process could be reimagined from a customer-centric perspective after borrowers obtain the mortgage. One of the most meaningful changes that banks could bring about to enhance the customer experience of borrowers is providing them a self-service calculator for understanding how their mortgage might be impacted if they make extra payments, shorten the loan term, reduce the monthly payment amount, or take an additional loan. Another way to support borrowers post-approval could be to deliver automatic notifications regarding the Euribor fluctuations before each time the new rate comes into effect for their mortgage. Given that many borrowers are likely to become passive over time towards their mortgage monitoring, we show that introducing personalized nudges, such as the yearly mortgage progress summary, might help reinvigorate borrowers' interest in checking the status of their mortgage. In the same vein, it might also be useful to provide appealing visual support and gamification features for tracking the mortgage progress.

To summarize our findings and answer our research question, this study offers twelve actionable recommendations listed below that the Banks could experiment with to redesign the digital mortgage process for greater customer-centricity (please see Appendix V for more details on each recommendation):

Bank Discovery and Mortgage Research

1. Improve visibility and navigability of key mortgage information on a single webpage.
2. Turn the application process description into an interactive step-by-step mortgage roadmap with checklists tailored to different target borrower groups.
3. Upgrade the current monthly payment calculator into an advanced, customizable calculator for loan affordability estimations.
4. Allow prospective borrowers to get an automatic mortgage pre-approval through a PSD2-based account data aggregation without requiring them to share a specific property for purchase.

Mortgage Application Process

1. Share proactive updates with prospective borrowers on their mortgage application status, instructions to complete loan processing, and an overview of the next steps.
2. Allow mortgage applicants to choose their preferred communication channel and incentivize having a dedicated, continuous chat between them and their loan officer.

3. Integrate a PSD2-based automatic bank statement retrieval into the mortgage application.
4. Create a property appraisal scheduling widget within the mortgage webpage to simplify the appraisal process.

Ongoing Mortgage Management

1. Provide a calculator for post-approval to let borrowers model different mortgage repayment scenarios.
2. Send borrowers automatic notifications about the upcoming Euribor rate change and its effect on their mortgage.
3. Send personalized, yearly mortgage progress summaries to borrowers to update them on their journey and remind them to check the status of their mortgage.
4. Provide an engaging visual dashboard and gamify the repayment process to help borrowers stay current on their mortgage and motivate them to actively monitor their progress.

5.2 Limitations

While we were able to propose customer-centric recommendations through this study based on the captured in-depth perspectives of private, Baltic bank mortgage clients, several limitations need to be noted regarding the present study. One major drawback of the adopted qualitative research design is the participant selection bias and the small sample size of 12 individuals, meaning our findings about the borrower experiences are limited, despite reaching data saturation, and may not be statistically generalizable to mortgage clients in general. We attempted to address the effect of this limitation by aiming to recruit a diverse sample of borrowers from different Baltic banks to represent a broader spectrum of the mortgage application customer experience. It is important to bear in mind that an individual researcher's bias still affects the analysis of semi-structured interviews [77], [78], and respondents might also willingly or unwillingly omit certain aspects of their experience. To further mitigate the methodological weaknesses of the exploratory research approach and improve the validity of our findings, we conducted a competitor analysis of the Baltic banks' mortgage webpages to develop a more comprehensive view of the digital mortgage landscape in the Baltic region.

In light of the abovementioned study limitations, it is relevant to consider how the current research could be expanded. It would have been great to conduct a survey with borrowers on their mortgage application experience for methodological triangulation so that we could facilitate the validity of our findings [78], [79]. Achieving a larger sample size, we could further explore the differences in the mortgage clients' application experiences depending on their characteristics, such as age, gender, income range, marital status, the number of codependents they have, etc. Furthermore, our current research relied exclusively on borrower narratives, which constrains data triangulation, so we could further bolster this study in the future if we interview loan officers, mortgage brokers, and real estate appraisers [79]. It could also be interesting to investigate how much effect the recommendations proposed in this study would have on the customer experience of mortgage applicants in practice, because their predicted customer value is only indicative at this point.

6 Conclusion

This thesis set out to research how the digital mortgage application process in Baltic banks can be redesigned to become more customer-centric. To gain a solid understanding of how we could serve the customers' needs better, we conducted a competitor analysis of mortgage webpages aimed at private clients across 10 banks in Estonia, Latvia, and Lithuania, along with 12 semi-structured interviews with mortgage clients from these banks.

Our competitor analysis uncovered 40 distinct content elements and features, which we organized into 7 category groups to identify the recurring patterns in how banks communicate mortgage information to prospective borrowers prior to application. The findings from this analysis revealed notable differences among Baltic banks in terms of how easy it is to navigate the user interface, the clarity of essential mortgage information details and application steps, customization options for digital tools, and the overall information availability. To analyze interviews with borrowers, we applied thematic analysis to discover themes and subthemes from transcribed data. As we evaluated the interviews, 6 themes and 22 subthemes were specified, findings from which illuminated critical pain points in the current mortgage application processes. Once the empirical findings from the competitor and thematic analyses were complete, we synthesized them to derive customer-centric recommendations for improving the digital mortgage application process for Baltic bank mortgage clients. The final recommendations were prioritized based on the mention frequency in the interviews with the borrowers, implementation feasibility, and potential customer value. As a result, 12 customer-centric recommendations for redesigning the digital mortgage process were formulated and grouped into three thematic clusters representing the main stages of the mortgage process. These recommendations directly address the service delivery gaps in the mortgage process and closely align with customer-centric design heuristics proposed by Frank et al. (2019).

There are several opportunities to carry out further research. A natural progression of this work is to conduct a survey with a larger number of mortgage clients to gauge their needs, preferences, and pain points, as well as organize more in-depth interviews with other stakeholders who have insights into the customer centricity of the mortgage process. Further research should also explore quantitative validations of the proposed redesign recommendations and consider longitudinal studies to assess their long-term effectiveness and adaptability.

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Appendices

I. Consent Form

Title of Study: Customer-Centric Redesign of the Mortgage Application Process in Baltic Banks

Researcher

Merey Beisembayev, Innovation and Technology Management Master's Student at the University of Tartu. Email: merey@ut.ee.

Supervisors

1) Fredrik Milani, Chair of Software Engineering at the University of Tartu. Email: fredrik.milani@ut.ee.
2) Yana Halas, Institute of Computer Science Coordinator at the University of Tartu. Email: yana.halas@ut.ee.

Purpose of Study

This study examines mortgage borrowers' experiences, preferences, and pain points across different stages of the mortgage process. The study's ultimate goal is to suggest practical, customer-centric recommendations that could improve the mortgage process and positively impact the borrower experience for private banking clients in the Baltic region.

Study Procedures

As part of this study, you are kindly invited to participate in an interview on the topic of mortgages, which will focus on your experiences, needs, and expectations regarding the mortgage process. The interview will take approximately 30 minutes, and your input will help identify existing friction points and define opportunities for improving the mortgage process in the banks of Estonia, Latvia, and Lithuania.

Confidentiality

The researcher is committed to maintaining your confidentiality throughout this study. The interview will be recorded, and the original recording will be accessible only to the researcher and his supervisors. The audio of the interview recording will be transcribed, and identifying information will be removed or aggregated to protect your privacy. Your signed consent form will be securely stored by the researcher and will not be shared with third parties.

By participating in this study, you acknowledge and agree that the data collected will be used to develop the researcher's master's thesis as part of their graduation requirements at the University of Tartu. The completed thesis will be publicly saved in the University of Tartu Digital Archive ADA and stored indefinitely. However, your name will not be included in the publication of the research data and results. In accordance with the University of Tartu's requirements, all research records will be retained for at least five years following the publication of the study. The researcher will securely archive the collected data for this period.

If you have questions or if anything is unclear to you about the study, please contact the researcher, Merey Beisembayev, at merey@ut.ee.

Voluntary Participation

Your participation in this study is entirely voluntary, and the decision to take part is only up to you. If you decide to participate, please sign the provided consent form. Even after you sign the consent form, you are still free to withdraw from the study without giving a reason and at any time before the research study is submitted for publication.

Consent

I have read and understood the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I may withdraw at any time before the research study is submitted for publication without consequences. I also acknowledge that I will receive a copy of this consent form. I voluntarily agree to participate in this study.

Participant's Full Name:
Date:

Signed digitally

This consent form is adapted from the sample informed consent form of Roane State Community College, available at: https://www.roanestate.edu/webfolders/WALLACEDA/oier/IRB/Informed_Consent%20Template.doc

II. Interview Guide

Introduction

Thank you for participating in this interview! I am conducting this interview as part of my master's thesis research on how borrowers experience the mortgage process. Through our interview, I aim to better understand your experiences, challenges, and expectations when applying for and managing a mortgage so that we can potentially improve the mortgage process in the Baltic banks for homebuyers.

This interview will take approximately 30 minutes. Before we begin, I would like to let you know that there are no right or wrong answers, so please feel free to share your honest thoughts. Your input is valuable for my research and will help me identify weaknesses of the mortgage process in the Baltic banks and suggest recommendations for making it more customer-centric.

Your responses will be used for research purposes, but will be kept confidential. If you allow me, I would like to record this interview to be able to transcribe it for further analysis.

Choosing the Bank

1. When did you take out your current mortgage? Was this your first time getting a mortgage, or had you done it previously?
2. Can you talk me through why you specifically chose this bank over others?
   2.1. Was there something particularly appealing about their website, their interest rates, customer service, recommendations, or perhaps something else?
3. Which other banks did you seriously consider? What made you ultimately decide against those banks?
4. When you were looking for a loan, did you find it difficult to compare different options? What could have made comparing options easier or clearer for you?
   4.1. Did you use any online calculators or loan comparison tools during your research? What specifically helped, or what did you feel was missing?

Loan Application Experience

5. After you decided to get a mortgage, what was the very first step you took? Could you walk me through the key steps you took from the beginning until you obtained the loan?
6. Looking back at your mortgage application process, did you feel any particular moment or step was stressful, confusing, or unclear?
7. Did the bank's website provide you with enough information to guide you through the mortgage application process?
8. Did you have any trouble understanding the loan terms and conditions presented on the bank's website?
9. How did you submit the required documents to the bank? Did anything frustrate you or cause delays during the process? If yes, could you explain exactly what happened?
10. How long did it approximately take from application submission to loan approval? Throughout this period, how well did the bank keep you informed about your loan application status?

10.1. Did you feel lost at any point during the mortgage process or unsure about what to expect next? Can you describe a specific moment when you felt a clear guidance was missing?

11. When you had questions or needed updates during the application, how did you prefer to communicate, and why did this work best for you?

Loan Management Experience

12. Now that you have your mortgage, how do you currently keep track of it (e.g., checking monthly payments, remaining loan balance, or interest rate changes)?
    12.1. Do you use the bank's app, website, or something else for loan management? Is it clear and effective?
13. Did you face any difficulties managing your mortgage online, whether it was checking repayment schedules and interest changes, or making extra payments? Could you please share a specific example?
14. Does the bank send you regular reminders related to your loan to keep you informed on payment due dates, interest rate changes, or anything else?
15. Since your loan approval, have you needed customer support? If yes, how exactly did you contact the bank, and was their response helpful or effective?

Closing

16. Is there anything else important about your mortgage experience that we haven't covered today?
17. If you could pick just one thing to improve about your digital mortgage application, what would that be, and why?

III. Competitor Analysis Table

The competitor analysis table is shown below in Figure 8 as a snapshot and is also accessible online as a Google Sheets spreadsheet. The information in the table was last updated and verified for accuracy on 5 May 2025. Due to the table's large width, it is presented in several parts in this appendix, from Table 2 to Table 8, categorized by identified elements. The competitor analysis table has also been uploaded as supplementary material for this master's thesis.

Figure 8. Snapshot of the Competitor Analysis

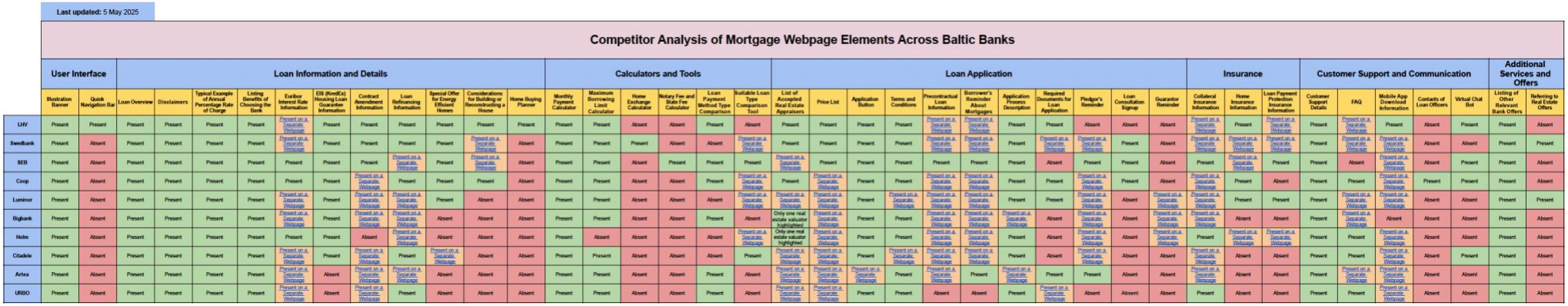

Table 2. Competitor Analysis: User Interface.

	User Interface	
	Illustration Banner	**Quick Navigation Bar**
LHV	Present	Present
Swedbank	Present	Absent
SEB	Present	Absent
Coop	Present	Absent
Luminor	Present	Absent

Bigbank	Present	Absent
Holm	Present	Absent
Citadele	Present	Absent
Artea	Present	Absent
URBO	Present	Absent

Table 3. Competitor Analysis: Loan Information and Details.

	Loan Information and Details										
	Loan Overview	**Disclaimers**	**Typical Example of Annual Percentage Rate of Charge**	**Listing Benefits of Choosing the Bank**	**Euribor Interest Rate Information**	**EIS (KredEx) Housing Loan Guarantee Information**	**Contract Amendment Information**	**Loan Refinancing Information**	**Special Offer for Energy Efficient Homes**	**Considerations for Building or Reconstructing a House**	**Home Buying Planner**
LHV	Present	Present	Present	Present	Present on a Separate Webpage	Present	Present	Present	Present	Present	Present
Swedbank	Present	Present	Present	Present	Present on a Separate Webpage	Present	Present	Present	Present	Present on a Separate Webpage	Absent
SEB	Present	Present	Present	Present	Present	Present	Present	Present on a Separate Webpage	Present	Present on a Separate Webpage	Absent
Coop	Present	Present	Present	Present	Present	Present	Present on a Separate Webpage	Present	Present	Present	Absent
Luminor	Present	Present	Present	Present	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present	Absent	Absent

Bigbank	Present	Present	Present	Present	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present on a Separate Webpage	Absent	Absent	Absent
Holm	Present	Present	Present	Present	Present	Present	Absent	Present on a Separate Webpage	Absent	Absent	Absent
Citadele	Present	Present	Present	Present	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present	Present on a Separate Webpage	Absent	Absent
Artea	Present	Present	Present	Present	Present on a Separate Webpage	Absent	Present on a Separate Webpage	Present on a Separate Webpage	Absent	Absent	Absent
URBO	Present	Present	Present	Present	Present on a Separate Webpage	Absent	Present on a Separate Webpage	Present	Absent	Absent	Absent

Table 4. Competitor Analysis: Calculators and Tools.

	Calculators and Tools					
	Monthly Payment Calculator	**Maximum Borrowing Limit Calculator**	**Home Exchange Calculator**	**Notary Fee and State Fee Calculator**	**Loan Payment Method Type Comparison**	**Suitable Loan Type Comparison Tool**
LHV	Present	Present	Absent	Absent	Present	Absent
Swedbank	Present	Present	Present	Absent	Absent	Present on a Separate Webpage
SEB	Present	Present	Absent	Present	Present	Present
Coop	Present	Present	Absent	Absent	Present	Present on a Separate Webpage

Luminor	Present	Present	Absent	Absent	Absent	Present on a Separate Webpage
Bigbank	Present	Present	Absent	Absent	Present	Absent
Holm	Present	Absent	Absent	Absent	Absent	Present on a Separate Webpage
Citadele	Present	Present	Absent	Absent	Absent	Present
Artea	Present	Present	Absent	Absent	Present	Absent
URBO	Present	Present	Absent	Absent	Present	Absent

Table 5. Competitor Analysis: Loan Application.

	Loan Application										
	List of Accepted Real Estate Appraisers	**Price List**	**Application Button**	**Terms and Conditions**	**Precontractual Loan Information**	**Borrower's Reminder About Mortgages**	**Application Process Description**	**Required Documents for Loan Application**	**Pledgor's Reminder**	**Loan Consultation Signup**	**Guarantor Reminder**
LHV	Present	Present	Present	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present	Absent	Absent	Absent
Swedbank	Present	Present	Present	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present	Absent
SEB	Present on a Separate Webpage	Present	Present	Present	Present	Present	Present	Absent	Present	Present	Absent
Coop	Present	Present on a Separate Webpage	Present	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present	Present on a Separate Webpage	Present	Absent

Luminor	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present	Present on a Separate Webpage	Absent	Present on a Separate Webpage
Bigbank	Only one real estate valuator highlighted	Present on a Separate Webpage	Present	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present on a Separate Webpage	Absent	Present on a Separate Webpage	Absent	Present on a Separate Webpage
Holm	Only one real estate valuator highlighted	Present on a Separate Webpage	Present	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present	Absent	Present on a Separate Webpage	Absent	Present on a Separate Webpage
Citadele	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present on a Separate Webpage	Present on a Separate Webpage	Present	Absent	Present on a Separate Webpage	Absent	Absent
Artea	Present on a Separate Webpage	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present	Present on a Separate Webpage	Present	Present	Absent	Absent
URBO	Present on a Separate Webpage	Present on a Separate Webpage	Present	Present	Absent	Absent	Present	Present on a Separate Webpage	Absent	Absent	Absent

Table 6. Competitor Analysis: Insurance

	Insurance		
	Collateral Insurance Information	**Home Insurance Information**	**Loan Payment Protection Insurance Information**
LHV	Present on a Separate Webpage	Present	Present on a Separate Webpage
Swedbank	Present on a Separate Webpage	Present on a Separate Webpage	Present on a Separate Webpage

SEB	Present	Present on a Separate Webpage	Present
Coop	Present on a Separate Webpage	Present	Absent
Luminor	Present on a Separate Webpage	Present	Present
Bigbank	Present on a Separate Webpage	Absent	Absent
Holm	Present	Present on a Separate Webpage	Present on a Separate Webpage
Citadele	Present on a Separate Webpage	Absent	Absent
Artea	Present on a Separate Webpage	Absent	Absent
URBO	Present	Absent	Absent

Table 7. Competitor Analysis: Customer Support and Communication

	Customer Support and Communication				
	Customer Support Details	**FAQ**	**Mobile App Download Information**	**Contacts of Loan Officers**	**Virtual Chat Bot**
LHV	Present	Present on a Separate Webpage	Present	Absent	Present
Swedbank	Present	Present on a Separate Webpage	Present on a Separate Webpage	Absent	Absent

SEB	Present	Absent	Present on a Separate Webpage	Absent	Present
Coop	Present	Present	Present on a Separate Webpage	Present	Present
Luminor	Present	Present on a Separate Webpage	Present on a Separate Webpage	Absent	Absent
Bigbank	Present	Present on a Separate Webpage	Absent	Absent	Absent
Holm	Present	Present	Present on a Separate Webpage	Absent	Absent
Citadele	Present	Present	Present on a Separate Webpage	Absent	Present
Artea	Present	Present on a Separate Webpage	Present on a Separate Webpage	Absent	Absent
URBO	Present	Present	Present on a Separate Webpage	Absent	Absent

Table 8. Competitor Analysis: Additional Services and Offers

	Additional Services and Offers	
	Listing of Other Relevant Bank Offers	**Referring to Real Estate Offers**
LHV	Present	Absent
Swedbank	Present	Present
SEB	Present	Absent

Coop	Present	Absent
Luminor	Present	Present
Bigbank	Present	Absent
Holm	Present	Absent
Citadele	Present	Absent
Artea	Present	Absent
URBO	Present	Absent

IV. Thematic Analysis Table

The themes and subthemes of the interview analysis are presented below in Table 9 and are also available online as a Google Sheets spreadsheet. The thematic analysis table has also been uploaded as supplementary material for this master's thesis.

Table 9. Thematic Analysis

Theme	Theme Description	Subthemes	Subtheme Meaning	Illustrative Quotes from Interview Participants
T1: Bank Selection	Borrowers prioritize financial benefits, primarily focusing on interest rates and loan conditions, using comparisons and negotiations among multiple banks to optimize their loan terms. Familiarity and existing trust with their home bank often strongly influence their final choice.	**S.T. #1: Interest Rate**	Interest rates are identified as the primary decision-making factor influencing borrowers' choice of bank, often overriding other considerations.	• "For me, it was purely the interest rates all three times" **[IP-6]**; • "My home bank didn't match the best offer I got on the market. Since the interest rate was basically the only thing that interested me, I went to another bank and switched" **[IP-4]**; • "I was just looking for the best interest rate, but also the costs of associated home loan fees were among the important factors" **[IP-7];** • "The first thing I was paying attention to was interest rate but down payment was also important" **[IP-8]**; • "The interest rate was the main thing, but the standard 30-year loan period was also what we were looking for. We excluded two or three banks based on the interest rates and what we had seen in this Facebook group about the interest rates being higher there in general, so in the end we were just between these two big banks, weighing the pros and cons" **[IP-11]**; • "Of course, it was the interest rate, and my home bank also offered a very good insurance deal, which was

				important for me at that time, so I could feel safe in case of anything" **[IP-5].**
		S.T. #2: Bank Offer Comparison	Borrowers actively gather and evaluate loan proposals from various banks to identify the most financially advantageous offer.	• "Our main decision criteria were who makes the best offer and also has the best conditions because it depends, for example, if the bank asks you to transfer your salary there, and so on. But firstly, we just knew that we were going to take several offers to see who had the best margins" **[IP-12]**; • "Back in the first and second times, I asked and checked the offers from all the banks and then chose the best one. For the third time, I skipped one bank because they gave me a hideously bad interest rate the previous two times, so I wasn't even interested in contacting them. I didn't care enough to go through the process at one more bank because their process for me has been quite difficult in the past, and they asked for more than the other banks" **[IP-6]**; • "I contacted only two banks at first, but then also reach out to a third one as well online" **[IP-8]**; • "We probably sent the loan application to four or five banks" **[IP-11]**; • "I sent the same letter requests with the property I would like to buy to all the banks I could find that provide home loans, so there were 7-8 banks. I wanted to gather the best options, go to my home bank to share the best offer I got on the market, and ask them if they could match it or not" **[IP-4]**;

				• "I heard from my friends and relatives who had taken out loans before that you definitely need to branch out. You need to collect every single offer and then try to haggle with them, which I did, and I think I got a decent rate at the end" **[IP-1].**
		S.T. #3: Negotiation Attempts	Borrowers engage in negotiations leveraging competitive offers from other banks to secure improved loan terms from their preferred bank.	• "Over three times, I did learn to negotiate better. The first time, I didn't realize I could negotiate the interest rate to get it even better. Now, I just pitted two banks against each other. I asked the banks if they could match the offer and also get rid of the contract fee. I mean, it's a negotiating tactic. They can't give you the best offer straight off the bat" **[IP-6]**; • "Initially, the home bank had one of the worst offers, despite the fact that I was their client since the beginning. So, then, there were a lot of negotiations. Another bank gave an actually good interest rate and waived some fees if I also took a credit card and moved my salary to them. It was only after I informed my home bank that I was moving wherever the best deal was that they finally matched the deal offered by another bank" **[IP-7]**; • "There was a bit of negotiation, but not a lot. We did tell the home bank a number that we had heard from another bank or the acquaintance who got it. If I recall correctly, they lowered the interest rate a bit in the end, but it wasn't a very strong negotiation, and it was also characteristic of me to do that" **[IP-11]**;

				• "I contacted another bank regarding taking a second home loan with them, so they offered to merge two loans into one on more favorable terms. Then, I openly told my home bank that I would not want to leave them and asked if we could come up with a solution. Maybe because they are not willing to lose me as their client, but my home bank also offered to refinance my loan at a lower interest rate, since it is already above the market rate" **[IP-9]**; • "I got a slightly higher-than-average offer from my loan officer at my home bank, and then I went to other banks. I collected all the other offers that I was never going to go for because I knew for sure that I wanted to stay in my home bank, but I just needed those other offers to get a better rate from my home bank" **[IP-1]**; • "I negotiated with different banks. One bank gave me a proposal, but I declined it and we stopped at this step. Other banks gave me several proposals after I said that the initial proposal didn't fit me and I got a better offer elsewhere" **[IP-5]**; • "I tried to negotiate with another bank that I preferred because of their ongoing campaign, but they didn't agree with my terms and wanted me to pay a higher down payment while offering a lower loan amount, so in the end, I had to go with my home bank" **[IP-8].**
		S.T. #4: Home Bank Advantage	Convenience, trust, and familiarity significantly influence	• "I didn't feel stressed with my home bank, but felt a little upset with the other one because they didn't actually seem to want me as their client; they didn't try to negotiate

			borrowers to select their existing banks, despite occasionally better financial terms elsewhere.	and were asking a higher interest rate and a bigger down payment, which I didn't find reasonable. And the third bank was too late in response to my request. Ideally, if all the calculations were pointing towards it, I would like to choose my home bank so I don't need to deal with additional steps, passing my account statement, etc. So if it were only a small difference, I would go with my home bank" **[IP-8]**; • "At the beginning, I chose to ask questions from my home bank. Then, I went to all the other big banks in Latvia to gather all the options that they offered me to make a decision, and the decision was to choose my home bank" **[IP-7]**; • "There was also one bank that gave a decent offer, but we just didn't have a history with this bank and having heard of less than optimal customer service and daily banking operations, we just disregarded it" **[IP-11]**; • "My mom worked her whole life in my home bank, so I was always close with this bank plus they were the faster than everybody else when I started applying to various banks" **[IP-9]**; • "Deep down, I knew that I was just too lazy to try to manage a two-bank lifestyle, and I wanted to stay at my home bank because my everyday banking was already there, but I was still going to try to get offers from other banks just to haggle with my home bank and get the interest rate down" **[IP-1]**;

				• "We approached choosing the bank by sending applications to different banks right away because we wanted to see where we would get the best answer. My home bank was definitely one of them, and I was hoping that maybe if they made a good offer, I would love to stay in the same bank" **[IP-12]**; • "I wanted to go with my home bank because it would be more convenient to do the paperwork since I already had an account there. They already know basically everything about me. It's easier to send the statements and everything like that" **[IP-4].**
T2: Digital Loan Application Experience	Borrowers generally appreciate the convenience and efficiency of digital loan applications, while simultaneously facing limitations, particularly with loan calculators' accuracy and the dependency on having specific property details during the pre-approval process.	**S.T. #5: Online Application Preference**	Borrowers favor online applications for their ease, convenience, and ability to manage applications flexibly without physical branch visits.	• "I didn't go to a branch. It was all online. I hate visiting banks in person because it feels like the person just wants to earn a salary and doesn't let you go out of the bank asking all these questions, so I prefer to do it online. At first, I checked the conditions to understand what I would actually have to pay on top of the money I would transfer to the guy who owns the property. Then, I just went to all those online banks, filled out the applications, and waited for offers" **[IP-7]**; • "I think overall it's great that all banks have these online forms where you can send your application at your own convenient time and get the offers. Imagine having to schedule the meetings, take the time, and go to five different banks. The first time we considered potentially taking the loan, me and my wife went to the physical office for one of these consulting sessions to talk to the bank

				representative. It was a very long conversation. And if we had done that several times just to learn that their interest rate is higher than in the other bank, it would have been such a waste of everybody's time. So this was the great advantage of the online system that we could send all the information in advance, the bank personnel could analyze all of it in their own time and then make us an offer, whereas when we went to the physical office, we sat behind the desk and the lady was asking a lot of questions and clarifications to input the details into the computer, which felt pretty awkward. We didn't want to go back to the physical office when we thought that maybe now was a good time to use our disposable income and buy real estate" **[IP-11]**; • "Each bank that I contacted had a very simple, easy-to-use online form that you just fill out, and sometime after, a bank representative would send you an email, replying whether you are pre-approved or not. It was way easier and way more comfortable than I thought it would be" **[IP-1].**
		S.T. #6: Loan Calculator	Online loan calculators help borrowers preliminarily gauge affordability, but borrowers report limited accuracy, particularly	• "I think the first step for us was looking through the different loans, checking out the loan pages of the banks, and trying out the loan calculators to see how big a loan we could even afford" **[IP-12]**; • "I found loan calculators useful, and I actually checked them on different websites from different banks. Some of them had more functionality, and some of them were more straightforward, but they gave me a general

			concerning fluctuating interest rates.	idea. The one I actually liked, if I remember correctly, was showing the Euribor calculation as a separate field and the bank interest rate as a separate field" **[IP-8]**; • "Initially, I was calculating various options of how much I could pay, and I was doing it several times, so when I was checking out apartments, I knew what kind of budget I had. I was prepared, I knew what to expect and how much I would pay" **[IP-9]**; • "I think the calculators are most useful for understanding what the loan limit is and what the price range I should be looking for. But I think they are not always super accurate in estimating the monthly repayments because I can choose the interest rate to kind of grasp my repayments, but the Euribor is always changing. So I think for me, it was more about understanding the borrowing capacity rather than what the repayments will be" **[IP-6]**; • "You can use the calculators on webpages of all the banks, but they are so preliminary that you don't get an idea of how much you actually can get. So basically, if you write to banks. They look at your bank statement, and they make a tailor-made offer. So, the calculators that you can find on the webpages are useless and not very accurate, especially with interest rates" **[IP-4].**
		S.T. #7: Property Selection Dependency	Frustration due to banks requiring specific property	• - "To get any information about how much you can borrow and so on, you have to submit an application with a link to the apartment. You cannot just approach the bank

			information upfront, limiting borrowers' ability to receive preliminary financial guidance before property selection.	and enquire how much you could obtain as a loan. They direct you to the application webpage instead. Basically, you find the property, provide the link to its listing in the application, and then they review your details" **[IP-9]**; • "It was actually a bit confusing when we were considering what should be the first step because some people told us to apply before we even have the apartment because it can take time, and then by the time we need to make a deal, it's good if you have the confirmation that you can get the loan. On the other hand, banks want you to link the apartment when you make the application, so we didn't know what the first step should be. What we finally did was we applied at first for another apartment than the one we bought in the end, but it was quite similar in terms of price range. Then, somewhere through the process before our loan was approved, we changed the apartment we wanted to buy and sent the bank a new link" **[IP-12]**; • "More or less, I had a clear idea of what was going to happen because I had friends who had done this recently, but if I didn't have those friends, I would have possibly been quite confused as to what I was supposed to do. What's the first step? Do I contact the bank and then shake hands with the seller or vice versa? Do I find the apartment first, then contact the bank whether I am even eligible for a loan for this exact apartment? It would have been confusing, but I had friends, fortunately, who held my hand through the process" **[IP-1].**

T3: Communication Practices	Borrowers highly value transparent, proactive, and personalized communication during their loan journey. Although digital tools facilitate the process, personal interaction remains crucial for clarity, trust, and comfort.	**S.T. #8: Phone Call Use**	Banks predominantly rely on phone calls for discussing critical loan details, a practice considered somewhat intrusive yet effective by borrowers.	• "We sent the initial application, and we got the offers from the banks, which we discussed internally. Then, we have been in contact with the banks, clarifying various details and asking if there was flexibility regarding certain aspects. That's when I had these phone calls with our home bank. I mostly remember being in touch with the home loan officer via phone once the initial offers came, and then if we made any adjustments, we received the confirmations via follow-up emails" **[IP-11];** • "One thing I noticed is that everybody just calls you. They do not communicate via email, and they just call you and negotiate on the phone. Maybe this was the best case for me because I negotiated a good deal, and maybe it wouldn't work out through emails, but I don't know" **[IP-7]**; • "I applied on the bank's website, submitted my application, and requested a call. Then in the call, I got all the information I needed" **[IP-8]**; • "They sometimes called us if there was some urgent thing, or when it was something that was easier to explain over the telephone in comparison to email" **[IP-4].**
		S.T. #9: Email Communication Preference	Borrowers often prefer written, asynchronous communication channels like emails, especially to	• "Usually, I would prefer emails, but there wasn't an option. You just leave your phone and wait for an agent to call you" **[IP-7];** • "There were also a lot of phone calls. Most of the banks initially called me by phone. I sent the form to them by e-mail, but they contacted me back by phone. One issue

			document critical decisions and details clearly and refer back to them later.	was that when they called me, it wasn't always at the best moment for me to answer them, so I would prefer if they would contact me more by email as well" **[IP-5];** • "99% of discussions with my home bank were via email, and maybe one or two calls. I think it was good and clear to have the things written. I would be concerned if some important aspects were only available via call because I would not have a record of them. It is also good to have an option for calls if you just want some more information and want to understand something better about the contract or conditions. Then, definitely, I feel it's more useful to have a call, either a regular phone call or a video call, to go through and clarify things. So I think it's good to have both options, but definitely to have the important things in writing" **[IP-12]**; • "We stayed in touch with my loan officer via email, phone, and video call. We emailed at first. Generally, I think email is the best for this sort of business because you can have a proper written overview of different offers from different banks and compare them all at once. Then he called me back to specify something about my down payment, but it wasn't like a scheduled call; it was just an impromptu clarification. Then, finally, we had a 15-20 minute face-to-face briefing call, where he explained the terms and pitfalls of taking out a loan" **[IP-1]**; • "We mostly exchanged emails, especially when dealing with all kinds of documentation and sending

				documents. You can send emails, you can call, or schedule a video call, but usually it's the most convenient to either send emails or talk via phone" **[IP-4].**
		S.T. #10: Loan Roadmap and Guidance	Some borrowers experience frustration with the lack of a clear, proactively communicated roadmap, causing uncertainty about subsequent steps.	• "I would love if all the banks sent out clear step-by-step instructions on what will happen at what stage, and these should be given right after the initial loan application. I would really like it if all the banks provided the roadmap because only two banks did, meaning that I understood what I had to do, but if I had only sent my application to a few other banks, then I wouldn't have gotten this roadmap, and then this whole process would have been a bigger headache than it already was" **[IP-3]**; • "Before I started the whole process, I didn't have a clear roadmap of the journey, and at some point, of course, it's better to know what comes next. On the other hand, I was really lucky because of my seller, who took care of lots of things and furthermore gave me information on how to have the contracts with the electricity company and the water company, re-register everything under my name, and stuff like that. It really matters a lot" **[IP-2]**; • "A bank is a business, so I guess they really made sure that it's an easy process for me to take out a loan and for them to get my money. But what's slightly confusing to me is everything that comes after taking out the loan. I feel like I have been stranded in terms of information. I thought that I would get regular overviews of how much my loan has been paid back, what the monthly Euribor

				rates are. I would really like to get some information" **[IP-1]**; • "It's not really difficult to understand the process; it's quite well stated on the banks' webpages. I would just really like to say that the process itself would be a lot more convenient for people and better in general if it was more transparent, so banks would actually say why exactly they make a decision or why exactly they need this piece of information that they're asking you for. All they usually say is that I need to do something because of this paragraph in the regulation or bank policy that they point out, and it's not only an issue with my current bank, but it's an issue with all banks" **[IP-4].**
		S.T. #11: Loan Officer	Borrowers appreciate the support received from loan officers.	• "We had a nice talk with a home loan officer. She was very helpful. She explained everything to me with patience and it felt very friendly and very honest as well" **[IP-8]**; • "The home loan officer was helping me a lot. She was guiding me all the way till the end, including the insurance. The bank offered their home insurance and also suggested other companies. They guided me through all the mandatory steps so that I would not be tricked by anyone, and they were helpful" **[IP-2]**; • "I think for first-time homebuyers, the big part is managing your fears and getting personalized support means a lot, so that you feel the loan officer is your partner and they are not trying to scam you or somehow take your

				money. I think it's really important, also, the kind of attitude and treatment you get. On the one hand, you want to automate as much as possible, for example, the document part, but I wouldn't remove this human support because it's also very valuable" **[IP-12].**
T4: Document Handling and Bureaucracy	Document-related tasks tend to be burdensome and create notable friction, characterized by repetitive manual tasks, redundant data submissions, additional eligibility verifications, and confusion related to property appraisals, affecting the overall loan experience.	**S.T. #12: Bank Statement Submission**	Borrowers face frustration with manual and repeated requests for submitting bank statements to every lender for pre-approval.	• "The only thing that I had problems with at the beginning was getting the exports from all the banks because I have three different bank accounts, so exporting the bank statements for the last six months for the application was annoying. What I really enjoyed was not needing to manually send my bank statements to one bank, which had some sort of an integration that took that data automatically from another bank when I gave them access, and that was amazing. But, for example, the bank I eventually went to just wanted me to email my bank statements to them. That was really old school, which I found weird, but I did it anyway, and that is who I am with currently" **[IP-3]**; • "I think the most annoying part was when you had to send the statements from the other banks, and they wanted all this information. This took the most time since you had to do it for the different banks. Sometimes, it was enough that you downloaded the statements once, but then at least one bank asked you to export from somewhere else. So this is what was annoying" **[IP-12].**
		S.T. #13: Data Entry	Borrowers repeatedly reenter and resubmit	• "I submitted documents to two banks, and I remember it was silly that I had to do it twice for both of

			the same loan, property, personal, and financial information across different bank platforms.	these banks. The first time I submitted bank statements, it was fine with both of the banks because they use some API that connects the data after you log in. Still, they don't have a connection with Wise, so I had to download the PDF statement from there and send it to them, which is interesting because Wise is Estonian, and I assume, at some point, they will have that connection as well. But then, after I sent all of the documents and they gave me the first offer, I had to send all of the documents again, which seemed kind of pointless because nothing much changed within a week. I don't know, but perhaps there's a reason. I don't think they do things just for extra work" **[IP-6]**; • "The environments in which I applied for the loan were quite different. In one case, the system was quite straightforward: there was a form that I could fill out to send everything. The other bank needed a lot of papers by email, for example, while another didn't even need so many of them. The thing is, most of them wanted to request documents and ask questions via phone or email. It would be much more convenient to send everything via the form at the very beginning, and then get their proposal for the interest rate and loan in general" **[IP-5].**
		S.T. #14: Eligibility Paperwork	Borrowers are usually asked to fulfill extra bureaucratic steps related to verifying their eligibility,	• "To pay the down payment, I needed to borrow from my father. They told me that you can only borrow money from your father for the real estate object you want, only if the down payment you pay isn't borrowed. They wanted my father to send a letter of confirmation to them that the

			including submitting educational diplomas, residency proofs, government support documentation, and providing explanations for bank transactions in the bank statements.	money he gave me wasn't a loan. Also, I didn't think that I would need to clarify so many things about my bank statements that I thought were self-explanatory. If there are any transactions higher than a couple of 100 euros, you can be sure that they will ask you about it, or if you transfer money to somebody as well. For example, if you have a relative or any person to whom you send money regularly, like 100 euros every month, then you need to explain that as well" **[IP-4]**; • "I had some struggles collecting all those documents. Sometimes, I didn't know where to take them from. For example, it could be on some government website, which I've never used before, and I just had to do research on how to get them. Some of the banks gave me clues about where I could search for them, but some of them just said I need this and this, and do your best. Good luck" **[IP-5]**; • "After the initial offer, they ask you to send all the documents they have listed, including, for example, my ID and graduation certificate from Estonia. They informed me that I have to be sure, and it's on me to be sure that my residence permit will be extended after five years. This type of bureaucratic stuff, and then you can start negotiating right away" **[IP-2]**; • "I have submitted the appraisal document and account statement. They have also asked, in my case specifically, to submit a document to prove the expected salary increase, which contractually states I will start

				getting more money from a certain date. It was important for the bank to consider that, so they could make a decision on the price limit at which I could buy the apartment" **[IP-8];** • "Every few months, they send me an email asking if I'm still in the country or inquiring about the status of my residence permit. I don't understand why they keep asking this because they have access to my bank account. If they see me spending money in Circle K, where would I be? Am I in Japan? I don't think so. I really don't get this" **[IP-10].**
		S.T. #15: Property Appraisal	Borrowers experience issues due to miscommunications between sellers, appraisers, and banks, which sometimes complicates or extends the appraisal process.	• "I had to pay this real estate company for an appraisal, which feels almost like a scam because every single person interested in buying has to get their appraisal. This means that four or five people have done the appraisal, but they just send you the same thing they have already made and somehow charge you 300 euros" **[IP-10]**; • "The banks ask for an appraisal. The learning there was that not all banks accept all appraisal firms. There are some big appraisal firms that usually cost more, which all the banks accept. Then there are some cheaper options that not all banks accept" **[IP-7]**; • "This current home loan was a little bit complicated because the old owner didn't want to send me the Appraisal Act for whatever reason, which I know now. She was a 68-year-old lady, so I didn't want to argue with

				her about technical stuff because I wanted the house set at a good price. She said that she wanted to send the appraisal act to the bank herself, and then it turned out that the permission to use the house was missing from the appraisal act, which tells whatever institution that the building is built according to the Building Act, and everything is okay. The permission actually existed; it was just in the archives because it was an old house, and the lady didn't bother telling the person who was doing the appraisal that it existed. Anyway, we had a lot of phone calls with banks walking through everything that was wrong and incorrectly documented, and everything turned out to be fine" **[IP-6].**
T5: Borrowers' Emotional Experience	Borrowers experience a range of emotions during the mortgage journey. While some borrowers found the mortgage process relatively smooth and straightforward, especially if they have prior experience and supportive peers, many others still feel stressed and uncertain at various stages.	**S.T. #16: Process Uncertainty Stress**	Borrowers' confusion and stress related to unfamiliar processes and uncertainty about next steps, requirements, or the timing of home-loan steps.	• "I understand the confusion and I understand the stress, but in the end, a bank is a business and they really want to get your money, so they will really do their best to try and guide you as smoothly as possible through this process. That's what I felt. One thing I would have liked to know beforehand is how long exactly this process takes because we lived in the apartment of my girlfriend's parents. We had a stable home and weren't being kicked out in a rush to buy a new home. But let's assume that we lived in a rental and would have had to tell our landlord when our contract would be up and when we would be leaving for our new home. I would not have known how to estimate the exact amount of time that it takes me to actually sign the deed, take out the loan, and then move

				into my apartment. So I had no idea how much time this all takes" **[IP-1]**; • "You're embarking on something that you've never done before. It's a big financial commitment in your life, and it has a lot of jargon around it. Probably what helps there is having conversations with friends and family. Maybe there should be an approachable, easy consulting service not associated with the banks so that they can explain to you these things, but those are the sort of concerns and things around this big unknown of what this means and how we go about it. Of course, you can read about all these things and then inform yourself as you take a big step. I guess it's sort of this completely unknown thing you must go through because you want to become an apartment owner. You need to get the loan, but then there's a lot of new information and things to orient yourself. It was more on the level of trying to figure out what an interest rate is, what Euribor is, and what earlier repayment is. What are all these insurances they're talking about?" **[IP-11]**; • "I think the beginning was probably the hardest when you don't know some stuff yet, and how to align the timelines. You have to coordinate the things you need to provide to the seller with the things you need to provide and confirm with the bank, so facilitating all these different documents between the different parties was probably the most stressful part. Then, of course, waiting for the commission's decision is also a bit stressful

				because if we don't get this loan, what do we do? Generally, buying your first apartment is stressful, and I did feel sometimes there was a lot of that on me because I was the Estonian-speaking one, and so I had to be the one who communicated with everyone, and also shared all the information with my partner. Sometimes, it's very hard to translate things. They do provide documents in English for expats, but in general, this is probably the part that can still be developed because I can see how it can be more stressful for people who don't speak the language" **[IP-12].**
		S.T. #17: Experience-Based Confidence	Borrowers who had prior loan experience demonstrate greater confidence and reduced stress navigating the application and management of subsequent loans.	• "No one really gave me advice, and I understood the process relatively well. I studied finance, and by the time I was applying for a loan, I was already working in finance for several years, so everything was pretty familiar and understandable to me. I have asked my mom, who works in the bank, for advice, but she is not working in the lending department, so she couldn't tell me much. I wouldn't say I had many questions, as I knew how things worked, and whenever I wanted to consult about something, the bank's loan officer was communicating and replying to me. Now is the second time I am applying for the home loan, and I know what to expect, and the system works the same way" **[IP-9]**; • "The first time, my ex-partner did most of the communication, so it was just opening the bank for me, and I didn't understand half of the words they talked about at the notary. The second time, I still didn't understand

				some of those words, but it was fine, and now, for the third time, I kind of semi-understand what it means, and I didn't really have any questions. I just said I want this house. These are all my bank statements from all of my banks. This is what I owe for my student loan. Please approve a home loan" **[IP-6].**
		S.T. #18: Peer Support	Advice, recommendations, and reassurance from peers provide clarity and confidence to borrowers throughout the mortgage process.	• "Of course, I asked family members and also friends not only about the loan, but the whole process of signing over the property. Like how does it work? I have never taken a loan. It's a big responsibility" **[IP-7]**; • "I got help and learned some things from my colleagues in our daily conversations, and I remember sometimes checking social media groups and learning from the experiences that people shared in the expat communities online" **[IP-8]**; • "I remember we were discussing the interest rates with my parents, and it was just interesting to see my parents' bank loan contracts that they had taken 10 years earlier. I also asked my sister about their house and what loan interest they have. But I think the most useful resource was one Facebook group, where people often asked about and discussed home loans, which gave a ballpark estimate of where we could be with the interest rate" **[IP-11]**; • "My friend had taken a loan out right before me, so he explained why he chose what he chose and gave some tips. He chose a different bank, not his home bank, so he

				had to bring his salary into that bank, and they signed him up for a credit card. I thought, you know what, I'm having none of that" **[IP-1]**; • "I had colleagues who had the experience of getting a loan, and everybody just told me to fill out the application to get an initial offer because loan calculators don't really matter. I also know from my friends' experience who have bought apartments before me that you can even ask for some additional benefits such as gold client status, some cards, or some insurance for free. If you have more time, you can really haggle with banks and get a pretty nice deal out of it" **[IP-2]**; • "I definitely discussed with some people, especially when I got the offers, which I shared with my mom. She's working in finance, so I wanted her advice and thoughts on what to pay attention to in the conditions and if there is anything that we should be mindful of. I remember one of my colleagues at the time had a friend who was a loan officer at a bank, so we managed to get in touch with her, and she would handle our case. This was nice in the sense that there was someone familiar, and there was a bit more trust. Otherwise, we mainly talked with some close family members who helped us review it" **[IP-12].**
		S.T. #19: Rate Volatility Anxiety	Fluctuations in interest rates cause anxiety among some borrowers regarding	• "The Euribor rate is updated every six months, but I don't get any notification about it or how it actually affects my loan. The European rate is displayed prominently on the bank's website, but it doesn't pertain to my specific

			their financial planning and stability.	loan, and I don't know when my 6 months are up. I have to calculate for myself when my Euribor actually changes" **[IP-1]**; • "The changes in the Euribor rate are currently not so important anymore because the Euribor rate has dropped, but at one point, it was, of course, a bit stressful. At the same time, I was very happy I didn't max out my capabilities of taking a home loan. It was rather a cheap loan, so I wasn't so badly affected by the Euribor rates. One interesting thing in Latvia is that when the Euribor rates went super high, the payment didn't become proportionally higher because some laws or banks' policies state that the increase in monthly repayment could go up to 20%. This means that a bigger proportion of the payment goes towards the interest rate instead of the principal, so at some point, almost all of your entire payment covers the interest rate. The loan principal doesn't get smaller. You're just paying interest rate, and that's it" **[IP-7];** • "Euribor is recalculated every 6 months, so I'm paying attention to the Euribor changes in the news. When the Euribor recalculation date approaches, I check how they calculate it and verify with them. The first time they recalculated it, the calculation didn't match what I expected, so I asked them, and they explained their calculation logic, which depends on the number of days in the month. Depending on the days of the month, it can change, and somehow, I pay 5-6 euros more than shown in

				the loan calculator. It's a small amount that I don't get to the bottom of it. Actually, I would like to have an explanation for that; it is just not worth the energy to spend and find out. I know the amount I will pay for the next 6 months, but starting after that, I don't know how much I will pay. No one knows what the Euribor rate will be at that time. I'm just doing calculations, trying to understand how an increase in the interest rate affects the total interest paid in 30 years. I'm doing different scenario calculations" **[IP-8]**; • "Our Euribor changes every six months, and we get notifications when the interest rate is about to change because of this. It is a bit strange how they communicate that because, at first, it was not very clear if the change was going to apply to a current month immediately. By now, we figured out that they usually just announce it, and then it gets into effect in the next month. So this communication is a bit messy sometimes, but we do receive these notifications regularly via email and internal bank messages" **[IP-12]**
T6: Post-Approval Loan Management	After loan approval and disbursement, many borrowers become passive in their engagement with the loan. They rarely monitor their progress	**S.T. #20: Loan Management Approach**	Borrowers tend to take a passive approach to their mortgage post-approval, allowing automatic payments to run without revisiting	• "I don't track my loan. I wanted to take out a loan and forget about it, and so I did. The actual paying is surprisingly easy. I don't do any of the paying, and the bank itself takes the money from my bank account without giving any notification, which is great because I don't want to pay attention to it. The only thing that I needed to be

	or proactively manage repayments, and while some consider refinancing or making extra payments, the lack of information or inertia often prevents them from following through.		loan terms or actively tracking their repayment progress.	sure of was that I had enough money on that specific date for the bank to take" **[IP-1]**; • "The monthly payments get taken automatically from my bank account, so I have no idea, actually. It's automatic, so it's always leaving my bank account, and I don't have to think about it at all. I don't really check the changes in the Euribor either. I did notice that it rose a bit after I bought it, and I remember paying more in the first year, but now it has come down, and that's all I've noticed about it. The Euribor would have to go up a lot for me to get worried, and then it would imply other problems" **[IP-10]**; • "We haven't had to manage anything. It's all automatic. The payments go out of my account every month. If the Euribor changes, the bank adjusts it for us. It's almost like investing in index funds, where you put your money there and forget it in a way" **[IP-11].**
		S.T. #21: Bank Updates	Borrowers report a lack of communication from banks after the loan is issued, mentioning that even important updates like Euribor adjustments and monthly payment changes are not	• "I would still like to know when my Euribor changes drastically. The Euribor that applies to my specific loan is supposed to change every six months. Technically, according to the past year, my loan should have gotten cheaper a little bit, and I would like to have gotten a little notification about it, like today your 6-month Euribor has changed, so your loan becomes a little bit cheaper" **[IP-1]**; • "The bank doesn't notify me about the Euribor change, and it's fine with my current home loan. I don't really mind because my salary goes to the bank anyway,

			always proactively shared.	but I remember that my salary and loan were in different banks during my last loan. Plus, six months is a long time, and it starts from the next month, not the same month you go to the notary. Even though I had an automatic payment to my other account at the beginning of each month, I remember receiving an email at some point in the middle of the month, saying that I owed the bank 100 euros because Euribor had changed. I asked about it because I thought they should notify me. They replied that they don't notify of the Euribor changes. They only notify if the base interest changes, and then everything else should be up to me to know" **[IP-6].**
		S.T. #22: Loan Refinancing	Some borrowers express interest in refinancing to obtain better terms when market rates decline. However, they delay or abandon the idea despite recognizing potential benefits due to a lack of clarity and support.	• "Of course, a bank is not going to provide that, but I would like some information about when I should refinance my loan. One year later, I heard from friends and relatives that Euribor rates had lowered considerably, and maybe I would like to know if this is a good opportunity to try and refinance my loan in a different bank, but there is no central website or tool that allows me to compare different banks' base rates at any given time and maybe the past three-month trend of how the base rates have fluctuated, grown or decreased" **[IP-1]**; • "For a moment, there was a trend in this Facebook group among people to renegotiate their interest rates, and for a moment, I just had the thought, should I also look into this, or do this? But then, seeing the responses and discussions going on, it didn't seem worthwhile to bother

				with that. A part of it might be because of how busy our work life is. Sometimes, we just don't have the attention for these things. If I had tried to initiate some change, I don't know whether I could have done all of that online or not. I'd have to look further into that" **[IP-11]**; • "I haven't received information about refinancing the loan. I think it goes against their interest, but there was a big boom some months ago when everyone said that if you pay more than 2%, you're most likely overpaying and have to refinance it. You have to pay this one-time fee, but in the long term, you will pay a lot less. I got a very good interest rate, considering this house is not A+ energy efficient, older than 40 years old, and so on. I got an interest rate that was considered very good at that time. Currently, I might get a smaller interest rate, but I haven't checked it" **[IP-7].**

V. Customer-Centric Recommendations for Improving the Mortgage Process

Customer-centric recommendations for improving the mortgage process in the Baltic banks are provided below in Table 10 and are also available online as a Google Sheets spreadsheet. Additionally, the table of customer-centric recommendations for improving the mortgage process in the Baltic banks has been uploaded as supplementary material for this master's thesis.

Table 10. Customer-Centric Recommendations for Improving the Mortgage Process in the Baltic Banks

Customer-Centric Recommendations for Improving the Mortgage Process in the Baltic Banks					
1. Bank Discovery and Mortgage Research					
Priority	**Recommendation**	**Description**	**Rationale and Supporting Insight**	**Possible Implementation Barriers and Assumptions About Feasibility**	**Potential Customer Value**
#1	**Improved Visibility of Key Mortgage Information**	**Consolidate essential information** on mortgage terms and conditions, eligibility criteria, required documents, pricing, Euribor, and the mortgage process **in a single, well-structured, and easily scannable webpage** to serve as a one-stop shop for everything a prospective borrower needs to know before starting an application. The webpage would still include downloadable	**Competitor gap:** Although every bank lists terms somewhere, information is sometimes fragmented and not always intuitive to navigate, not to mention the level of detail. For example, price lists are hidden in PDFs on separate webpages in 7 out of 10 cases, required document lists appear in only 6 out of 10 banks, FAQs are not presented on the main mortgage webpage in half of the	Given that banks already possess the necessary information, even if some of it is spread across their various website parts, they mainly need to assemble data and experiment with different online presentation formats to give prospective borrowers enough clarity without overwhelming them with too much information.	- Borrowers see the essential information in one visit instead of looking for it across several PDFs or separate webpages, eliminating search friction and promoting transparency. - Clear prerequisites let customers plan their timeline and start gathering documents early without additional stress due to the opaqueness of what to expect next. - Openly displaying fine

		PDFs for deep dives, expandable accordion sections, and links to other relevant webpages, but aggregate them together for easier navigation and a better grasp of the mortgage application.	times, collateral insurance and Euribor information are explained off the main mortgage page in 7 banks each. **Borrower pain points:** Six interviewees explicitly described confusion or stress related to the lack of familiarity with mortgages and uncertainty about the following actions, requirements, paperwork, or the timing of mortgage steps. **Literature link:** Optimizing visibility key mortgage information and the ease of website navigation aligns with three customer-centric design heuristics by Frank et al. (2019): **- Customer support:** Assembling mortgage specifics in one place allows customers to build knowledge on mortgages and become more well-informed on the topic.		print helps educate customers on mortgages, signals a bank's integrity, and reduces early churn caused by a lack of structure and information insufficiency.

			- First-contact problem resolution: By presenting all mandatory information to begin with, customers can get many of their basic questions answered in a single website visit, which also reduces their need for reliance on peer support. **- Consistent brand experience:** Building a unified, well-structured layout for the mortgage webpage can support the recognizable experience that banks can create for their customers.		
#2	**Interactive Step-by-Step Mortgage Roadmap**	Upgrade the application process description into a **detailed, clickable, exportable mortgage roadmap**. The roadmap should outline the entire customer journey from affordability estimations and pre-approval to notary signing and the first monthly payment, featuring: - Approximate timeline of every interaction between the customer and the bank	**Competitor gap:** All reviewed banks provide an application process roadmap, but almost every one of them simplifies the steps and provides ambiguous information that does not give a clear picture of the entire mortgage process. **Borrower pain points:** Six interviewees cited uncertainty and experienced frustration	Redesigning the presentation of the mortgage roadmap on the website will mainly require changes in the front-end build to accommodate more detailed information of every mortgage process step, which could be organized into a carousel format, and checklists for each step, which could be collapsed in an accordion list. Most importantly, the banks will need to work out	- Prospective borrowers can instantly familiarize themselves with the sequence, duration, and activities that each step of the mortgage process entails. - The redesigned mortgage roadmap can lower the psychological barrier and encourage prospective borrowers to start a mortgage application. - Breaking down the mortgage process into a

		or third parties, such as a property appraiser or notary; - Expandable checklist per step, describing required documents, associated fees, typical duration, and tips; - Context filter to provide more tailored information and hide irrelevant steps, distinguishing between first-time homebuyers, refinancers, borrowers who would like to construct a house, and those who would like to go with a home exchange.	with the lack of a clear, proactively communicated roadmap. **Literature link:** Improving the mortgage roadmap and making it more interactive aligns with the following two customer-centric design heuristics by Frank et al.: **- Customer support:** The redesigned mortgage roadmap with detailed timeline and checklists can help borrowers orient more smoothly and better anticipate the upcoming steps. **- Temporal flexibility:** Providing the mortgage roadmap on the bank's website lets borrowers get back to it whenever they need to for reference during any stage of the mortgage process they might be.	the accurate timeline from a borrower's perspective, localize the information for each specific market, and review the descriptions using UX copywriting to simplify the explanations of the whole mortgage journey.	step-by-step roadmap can boost the borrowers' confidence level and prepare them for the journey ahead early on, so they do not feel lost.
#3	**Advanced Customizable Calculator for Pre-Application Loan**	Upgrade the current monthly payment calculator for pre-application with a multi-	**Competitor gap:** All ten reviewed Baltic banks feature a monthly payment calculator, but none	Banks already provide a basic functionality to perform calculations, so upgrading the calculator for	- Customers can rely better on the calculators to conduct estimations instead of building their

	Affordability Estimations	factor simulator that lets prospective borrowers: - Vary all cost drivers, including bank interest rate, Euribor rate, repayment method schedule, loan term, down payment, compulsory insurances, one-time fees; - Model "what-if" Euribor shocks to estimate the effect of Euribor rate's increase or decrease by a certain percentage; - Compare 2-3 scenarios side-by-side and export the results as a document for sharing with family or rival banks.	account for all cost parameters and a multi-scenario view. The level of customization available for preliminary calculations varies from bank to bank. **Borrower pain points:** 9 out of 12 interviewees named interest rate a dominant factor for bank selection, however, 4 participants felt that the existing calculators were not accurate or useful enough, especially in the context of possible Euribor fluctuations. **Literature link:** Expanding the functionality of the calculator aligns with the following two customer-centric design heuristics by Frank et al. (2019): **- Customer self-service:** The advanced, customizable calculator enables prospective borrowers to do complex	customizable calculations with more parameters would be an extension of the feature that also requires front-end redesign, especially in terms of providing multiple scenario comparisons.	own spreadsheets or relying on competitors' calculators. - Exposing every cost element upfront prevents hidden fee surprises later in the process. - Openly accounting for more costs and various scenarios can help customers discover the mortgage from different angles and increase trust in the bank. - Shareable, side-by-side scenarios can empower customers to have informed conversations with the bank.

			cost calculations on their own. **- Customer-friendly control flow:** Featuring side-by-side scenarios and "what-if" models can reduce the customer effort to better understand the effect of different parameters on loan affordability.		
#4	**Mortgage Pre-Approval Without Selected Property Powered by Open Banking**	**Property-agnostic pre-approval could enable prospective borrowers to check their borrowing capacity before identifying a specific property to inquire about**. The pre-approval could be executed through a manual user input of their incomes and liabilities, dependents, marital status, etc., as it currently stands. Alternatively, **customers may be given a choice to consent to PSD2-based account data aggregation**, which, combined with a handful of self-entered variables,	**Competitor gap:** At least 5 banks ask to specify the property for purchase, and only 2 banks explicitly offer to authorize the account statement extraction for credit check. **Borrower pain points:** 3 interviewees specifically touched upon frustration with property selection dependency, and 4 more interviewees complained about the difficulties of manual retrieval of bank statement information. **Literature link:** Introducing mortgage pre-approval integrated with	Integrating a PSD2-based account aggregation for pre-approval should be technically feasible and increasingly familiar to many banks practicing open banking. The implementation would primarily involve front-end adjustments to design a user flow, where applicants can opt to proceed without entering property details and are offered the option to securely link their bank account information, and back-end integration to connect this input with the bank's internal risk engine or credit scoring API, returning an indicative	- Prospective borrowers gain more flexibility by getting a budget ceiling based on their creditworthiness without specifying a property of interest. - Pre-Approval strengthens the prospective borrower's position with real estate agents and sellers. - Customers are more likely to proceed with the full mortgage application after pre-approval

		will provide a more indicative borrowing capacity range and personalized interest rate. As a result, the prospective borrowers would get a downloadable pre-approval letter that they can demonstrate real estate agents and property sellers.	PSD2 for data pull without the need for property selection aligns with three customer-centric design heuristics by Frank et al. (2019): **- Customer self-service:** Prospective borrowers have the possibility to gauge their borrowing capacity themselves. **- First-contact problem resolution:** Pre-approval delivers the budget information customers actually want in a single interaction. **- Customer process integration:** Prospective borrowers can better estimate loan affordability to plan ahead instead of submitting a full application and awaiting results.	borrowing capacity estimate using income and liability data. The banks also need to make sure the data is handled securely and clearly explain the personal data processing to the users for regulatory compliance.	
2. Mortgage Application Process					
Priority	**Recommendation**	**Description**	**Rationale & Supporting Insight**	**Possible Implementation Barriers and Assumptions About Feasibility**	**Potential Customer Value**

#1	**Mortgage Application Status Tracking and Follow-Up Updates**	Keep the prospective borrower in the loop after submitting the application by **proactively notifying them about the mortgage application progress and the outstanding tasks** to complete loan processing and underwriting via preferred communication channels (e-mail, banking app, phone calls, etc.). The bank should also aim to give applicants a timeline view of the entire mortgage approval chain and where they are currently in, and a direct contact option for clarifying delays and asking questions.	**Competitor gap:** All reviewed banks provide an application process roadmap, but almost every one of them simplifies the steps and provides ambiguous information that does not give a clear picture of the entire mortgage process. **Borrower pain points:** Six interviewees described feeling confused and stressed by the lack of proactive guidance and not knowing the next steps they should follow. **Literature link:** Delivering proactive mortgage updates to the applicant aligns with the following two customer-centric design heuristics by Frank et al. (2019): **- Customer process integration:** Being in touch with the applicant during the loan processing and underwriting helps to better integrate with their	Since the banks know exactly at which stage the mortgage application of a customer currently is, have the customer's contact information, and a loan officer is assigned to the customer, it should not be technically difficult for them to enable status change updates and notify exactly about the missing information that the applicant should additionally provide to finalize the loan processing and underwriting.	- Prospective borrowers have a transparent view of what is going on with their mortgage and what to expect next in the process, which reduces their anxiety. - Prospective borrowers can take faster action on the remaining tasks to speed up loan approval thanks to the proactive updates.

			customer journey, minimize friction points, and bridge the gap between the mortgage application and approval stages. **- Customer support:** Updating applicants on the mortgage application progress provides additional communication touchpoints and helps to ensure they receive continuous guidance throughout the entire mortgage process.		
#2	**Flexibility to Choose Communication Channel and Dedicated Chat Thread**	**Allow applicants to choose their preferred communication channel**, whether it is e-mail, video, or phone calls, which can be set during the first contact with the bank and updated anytime afterwards. Additionally, it is advisable to **maintain a persistent chat thread between the prospective borrower and their loan officer** via e-mail or the bank's digital portal to support asynchronous	**Competitor gap:** While direct communication with the loan officer is primary in interacting with the bank during the mortgage process, all reviewed banks universally provide customer support details on their webpages. However, only 4 out of 10 banks additionally offer guidance via virtual chatbot, and only a single bank openly shares contact details of all their loan officers in public.	Considering that banks already have various communication channels in place, including loan officers who stay in direct contact with the applicants, an adequate range of communication options could be offered for selection to the applicant without any significant changes to the current bank operations. The banks mainly need to inquire about the customers' preferences during their	- Establishing a human connection with a loan officer can bring customers reassurance and emotional comfort. - Asynchronous communication offers applicants more flexibility - Having all the important mortgage information exchanges accessible in one continuous chat can help reduce miscommunication and repeat explanations

		communication, preserve full history for traceability, and include file attachments together with task descriptions for easy reference.	**Borrower pain points:** Six interviewees expressed a stronger preference towards written communication via e-mail, sometimes finding the unannounced phone calls from bank representatives to be unsolicited. **Literature link:** Providing applicants the freedom to choose how they would like to be contacted and keeping a dedicated chat thread for communication aligns with the following two customer-centric design heuristics by Frank et al. (2019): **- Channel flexibility:** Applicants have a choice over which communication channel to use with the bank. **- Customer support:** A dedicated chat thread with a loan officer ensures the applicant has reliable access to guidance during	pre-approval or mortgage application, and raise awareness of the dedicated chat to incentivize them to use it for asynchronous contact with the loan officer.	

			the ongoing mortgage process. **- Temporal flexibility:** Applicants can decide to reply when it fits their schedule.		
#3	**PSD2-Based Automatic Bank Statement Retrieval**	Introduce a **consent-based, secure account-linking flow for pulling income and spending data** from all major Baltic banks and regional financial lenders, such as Wise or Revolut, to replace manual bank statement extractions and uploads. This functionality would automatically help provide the account statement data for the last 6 months, but it would still be optional for applicants if they prefer to handle the process manually.	**Competitor gap:** All 10 Baltic banks demand bank statements in the mortgage application, yet only 2 banks provide any kind of automated pull, while the rest rely on PDF uploads via e-mail or portal. **Borrower pain points:** Manual retrieval and submission of bank statements irritated four interviewees, and two more interviewees also voiced the issue with duplicate data entry, which included bank statements too. **Literature link:** Offering PSD2-based automatic bank statement retrieval aligns with two customer-centric design heuristics by Frank et al. (2019):	Integrating a PSD2-based account aggregation for pre-approval should be technically feasible and increasingly familiar to many banks practicing open banking. The implementation would primarily involve front-end adjustments to design a user flow, where applicants are offered the option to securely link their bank account information, and back-end integration to connect this input with the bank's internal risk engine or credit scoring API. The banks also need to make sure the data is handled securely and clearly explain the personal data processing to the users for regulatory compliance.	- Significantly cuts application time since there is no manual document import and export. - Automatic data retrieval increases accuracy and leads to more reliable credit decisions.

			- Customer-friendly control flow: Automatic data retrieval releases prospective borrowers from searching and sending financial files and eliminates potential back-and-forth interactions by making sure that the right data arrives on first try. **- Informed point of contact:** After the bank statement file is successfully uploaded to the application system and reaches the loan officer, the full account history is available to the bank, meaning there is no need to request this data from the customer again unless its relevance eventually expires.		
#4	**Property Appraisal Scheduling Widget**	**Implement a real estate appraisal scheduling widget on the mortgage webpage**, so the prospective borrower or property seller would be able to view a calendar displaying available property appraisal slots for	**Competitor gap:** Each reviewed bank offers a list of accepted real estate appraisers, but none of them enables prospective borrowers and property sellers to express their interest directly to the appraisal firm and	While designing the widget should not pose a difficulty for the bank from a technical perspective, it might be tricky for the bank to coordinate the accuracy and update consistency with all of their approved real estate	- The prospective borrowers can enjoy easier and more efficient appraisal arrangements as well as better transparency on the valuation of the property. - The prospective borrowers can progress

		every appraiser approved by the bank, see the estimated appraisal price with the appraiser's contact details, and reserve a slot to receive further details via e-mail. Having such a scheduling widget would provide the homebuyer and the seller with shared information on when the appraisal could be performed, by whom, and how costly it would be. This would also connect the prospective borrower with the appraisal firm, so they do not miss out on the information, and eventually lead to all parties receiving the property valuation report.	facilitates the appraisal process in a way that keeps all the involved parties in the loop. It is also worth mentioning that in half of the banks, the list of accepted real estate appraisers is provided on a separate webpage, and in two cases, banks only refer to a single appraisal firm. **Borrower pain points:** Three interviewees highlighted the appraisal process as an issue that causes a delay in the mortgage approval. **Literature link:** Streamlining property appraisal scheduling to include the bank, homebuyer, and seller in the process and make sure they all receive the valuation report aligns with the following two customer-centric design heuristics by Frank et al. (2019):	appraisers in real time, meaning that the bank should pilot the functionality first to see if it is worth scaling based on tracking the data of actual widget use by customers and how much does it contribute to shortening the apprail duration.	faster through the mortgage underwriting.

			- Customer-friendly control flow: The appraisal scheduling widget helps the prospective borrower facilitate coordination with the property seller and appraisal firm, reducing the time and effort it takes to initiate the appraisal. **- Customer process integration:** Prospective borrower gets directly connected with the real estate appraisal firm and receives the property valuation report necessary for the bank to complete the underwriting process.		
3. Ongoing Mortgage Management					
Priority	**Recommendation**	**Description**	**Rationale & Supporting Insight**	**Possible Implementation Barriers and Assumptions About Feasibility**	**Potential Customer Value**
#1	**Post-Approval Different Scenario Modelling Calculator for Mortgages**	**Provide borrowers with a self-service calculator on the internet or a mobile banking platform to run various calculation scenarios**, so they can	**Competitor gap:** The banks are rather reluctant about providing information about loan refinancing since it naturally goes against their	While extending the calculator logic and adding several new parameters for customization might be relatively feasible, it might take the bank more effort to	- Being able to easily hypothesize the impact of various mortgage decisions can lower the friction that stops borrowers from taking action towards a

		understand the impact of making one-off or recurring extra payments, shortening the loan term, reducing the monthly payment amount, or taking an additional loan. It would also be helpful for borrowers to be able to run a refinancing check by adjusting the interest rate and comparing it to their currently prescribed one in the contract, and submit a contact request to their loan officer when they find a desirable scenario that they would like to inquire about in more detail.	interest unless customers are willing to transfer their mortgage from a different bank to them for refinancing, so we observe that half of the time, banks elaborate on the loan refinancing separately from the main mortgage webpage. Regarding the calculators, it appears that none of the reviewed banks currently allow for playing out different scenarios and seeing their effect on the borrower's mortgage. **Borrower pain points:** Four interviewees considered refinancing their mortgage but have not made any serious attempts to initiate the process, while three more interviewees also stated they would like to repay their mortgages sooner. **Literature link**: Providing a self-service calculator for different	rethink the calculator's front-end design and provide visual help and explanations to showcase the impact of the various parameters on interest and time savings. Additionally, there might still be limitations to the implementation of such a self-service calculator, considering that for a very accurate result, the calculator should ideally be tailored to the mortgage conditions of the borrowers, because different customers might have different penalties for early repayments or some other factors that are specific to their individual case.	better, personalized mortgage offer. - Having an opportunity to consider and obtain better mortgage terms in their home bank can help customers avoid the hassle of switching to another bank. - Borrowers feel more in control of their repayment obligations to the bank instead of passively approaching the mortgage.

			scenario projections aligns with the following two customer-centric design heuristics by Frank et al. (2019): **- Customer self-service:** Different scenario modelling calculator expands the borrowers' knowledge of the **- Customer-friendly control flow:** Testing different hypothetical scenarios using the calculator can facilitate borrowers' thinking and bring them closer to acting on their ideas regarding the mortgage.		
#2	**Proactive Euribor Change Updates**	**Whenever the Euribor rate applicable to the mortgage is about to change, the bank should automatically push a notice** through the customer's preferred communication channel about the new monthly payment and when it comes into effect, the date of the next scheduled rate update, and a link to the	Competitor gap: Euribor rate information is found in all the banks, but it is described in detail on a separate webpage 7 out of 10 times. Furthermore, the displayed Euribor information is not tailored for each specific borrower's mortgage, and the reviewed banks largely do not seem to send personalized, proactive	All the data required to send proactive notifications already exists, but the bank needs to develop a proper format for the notice that would be optimized for different channels and integrate a business rule to automatically deliver notifications depending on the individual Euribor fixing period of the clients. In terms of compliance, the	- Borrowers are better informed about the cost drivers of their mortgage and how they affect their ongoing repayment. - Borrowers have more flexibility to plan ahead their spending, knowing the exact changes in their monthly payments for the next Euribor fixing period. - Proactive transparency also helps to clear up

		updated loan amortization table.	rate change notices, or at least the borrowers somehow mostly miss out on these notifications. **Borrower pain points:** Five interviewees voiced concern about the fluctuating Euribor rate and wished the bank would take more proactive communication steps to help them stay up-to-date on the changes. **Literature link:** Proactively informing borrowers about the Euribor adjustments and monthly payment changes aligns with the following two customer-centric design heuristics by Frank et al. (2019): **- Customer support:** Proactive notifications help borrowers stay updated on the effect of the Euribor rate changes on their mortgage. **- Customer-friendly control flow:** The	bank would also need to make sure that the notifications are sent out only to the borrowers who opted in for these type of communication updates.	misunderstandings regarding the reasons behind the cost changes

			important information that proactive notifications bring to borrowers can reduce the amount of effort they have to apply to learn about the rate changes and their effect.		
#3	**Mortgage Year-In-Review**	**Auto-generate a yearly, personalized, digestible summary about the mortgage for the borrowers** to deliver insights on key figures such as the fluctuations in the total interest rate over the 12 months, remaining principal balance, total interest paid this year, and the next Euribor reset date via e-mail or within the banking platform. The digest of the yearly progress could also include various cross-selling options and an opportunity for borrowers to share their customer experience feedback with the bank, or ask questions if they have any.	**Borrower pain points:** Five interviewees describe taking a passive stance towards tracking their loan payments, remaining balance, or Euribor rate changes, while four interviewees also mentioned wanting more proactive communication, additional information, or better tools to manage their loan post-approval. **Literature link:** Compiling and sharing the mortgage progress summary with borrowers aligns with the following three customer-centric design heuristics by Frank et al. (2019): **- Customer excitement:** The yearly mortgage summary exceeds	The bank technically has all the personal data on the borrowers' mortgages, but still needs to craft an on-brand template and make sure it can be automatically populated with the accurate, personalized facts based on the mortgage history of the borrower. In terms of compliance, the bank would also need to make sure that they have customers' consent to process their data for the yearly review and send it out only to the borrowers who opted in to receive communication updates.	- Borrowers may feel more reassured, having an up-to-date idea about their mortgage and knowing that the bank is also helping monitor their loan health. - Passive borrowers can benefit from a reminder to check back on their mortgage to stay knowledgeable about its progress, and might even be reactivated for some time.

			borrowers' typical expectations for communication with the bank by taking personalization one step further. **- Customer support:** Reviewing the mortgage progress from the past year helps borrowers retrospectively evaluate their mortgage journey. **- Customer process integration:** The yearly mortgage summary also helps the bank improve understanding of the borrowers and how it can further cater services to anticipate customer needs.		
#4	**Visualizing and Gamifying the Mortgage Progress**	**Introduce a revamped visual dashboard on the internet or a mobile banking platform to engage borrowers in tracking the mortgage progress over time**, which would display a donut chart (or an alternative figure) to show the percentage completion of the total loan amount,	**Borrower pain points:** Five interviewees describe taking a passive stance towards tracking their loan payments, remaining balance, or Euribor rate changes, partially due to the automatic deduction of funds from their accounts once the monthly repayment day comes.	The bank would need to accurately pull and update data for developing appealing visualizations of different mortgage aspects and make sure the design is easily comprehensible on the one hand and engaging on the other hand, so that borrowers feel inspired to track the progress and move towards it.	- Users get to observe how the impact of their regular payments has an accumulative effect over time and feel more emotionally invested in the mortgage process. - From a passive approach towards more frequent revisiting of the mortgage specifics, borrowers might even consider making

		equity build-up graph that visualizes how much of property the borrower already paid off, and milestone badges symbolizing the achieved progress in terms of repaid loan percentage or time left until mortgage payoff. The equity build-up visualization in particular could be executed in a very creative way. For example, instead of just reflecting the percentage of achieved equity in the graph format, the user can unlock the next piece of the puzzle, depicting a home, by reaching a certain level of the remaining loan balance or something else in a similar fashion.	**Literature link:** Visualizing and gamifying the mortgage progress aligns with the following two customer-centric design heuristics by Frank et al. (2019): **- Customer self-service:** Borrowers are capable of independently tracking and reflecting on their repayment progress. **- Customer excitement:** Visual feedback and milestone recognition can excite borrowers and encourage them to pay attention to the progress of their mortgage in more detail.		extra payments, refinancing, or even taking on additional financial products and services such as a renovation loan or better insurance.

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15/05/2025