

A Work Project, presented as part of the requirements for the Award of a Master's degree in Management / Impact Entrepreneurship and Innovation from the Nova School of Business and Economics.

MVP Development for ActivoBank's Mobile Application: Elevating User Experience and Enhancing Financial Product Engagement

Lou Deville – 55917 - Elevating ActivoBank's Application: MVP Development for Enhanced Loyalty and Financial Product Engagement.

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Abstract

This thesis presents a consultancy project for Portugal-based ActivoBank. The bank faces a challenge where many customers use its services for basic banking activities but hesitate to choose it for more significant, revenue-generating financial transactions. Despite a diverse product range, the bank struggles to effectively engage customers in utilizing these offerings. Therefore, the focus of this thesis lies on addressing customer hesitancy in choosing ActivoBank for substantial financial transactions. The project aims to integrate solutions into ActivoBank's mobile application, enhancing its appeal as a primary financial institution. Employing comprehensive research and customer surveys, this thesis identifies four critical touchpoints in the customer journey and develops a Minimum Viable Product. The latter aims at boosting customer engagement with revenue-generating products. For the first touchpoint, we introduce an enhanced login page to engage users right from the start. In the third touchpoint, users are segmented into interest groups through a questionnaire and provided with a tailored Activo4U page, while the fourth touchpoint features a personalized AI-powered recommendation system. Moreover, the thesis provides ActivoBank with detailed implementation guidelines and additional suggestions for the application as well as beyond the scope of the application to improve its position in the digital banking sector and the lifetime value of its customers.

Keywords: Product Development, Low Code, Digital Bank, Customer Engagement

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Table of Contents

Table of Contents	1
Introduction	3
1 Bank Introduction: ActivoBank	5
1.1 Overview of ActivoBank.....	5
2 Problem Statement	6
2.1 Challenges	6
2.2 Objectives.....	7
2.3 Four Strategic Touchpoints: Mapping ActivoBank's Customer Journey Challenges	9
3 General Contextual Background	11
3.1 Definition of Digital Banking.....	11
3.2 Comparative Analysis: Traditional Banking versus Digital Banking	11
4 Methodology	14
4.1 Project Approach.....	15
4.2 Literature Review Methodology	15
4.3 Empirical Research Design	16
4.4 Interviews.....	17
4.5 Survey	18
4.6 Ideation Methodology	20
4.7 MVP Development Methodology	22
4.8 MVPs Testing Methodology	23
5 Research Question 1	24
5.1 Analysis of Findings of the Interviews.....	25
6 Touchpoint 1: Pre-Onboarding Interaction	Erreur ! Signet non défini.
6.1 Contextual Background.....	Erreur ! Signet non défini.
6.2 Supporting Survey Findings.....	Erreur ! Signet non défini.
6.3 Solution	Erreur ! Signet non défini.
6.4 User Testing	30
6.5 Final MVP - Enhanced Login Page.....	32

Group part

7	Touchpoint 2 : Bureaucratic Onboarding Procedure.....	34
	7.1 Contextual Background.....	34
	7.2 Supporting Survey Findings.....	37
	7.3 Solution	39
8	Touchpoint 3: Post-Onboarding Interactions	40
	8.1 Contextual Background.....	40
	8.2 Supporting Survey Findings.....	Erreur ! Signet non défini.
	8.3 Solution	Erreur ! Signet non défini.
	8.4 Personalization in the Form of the Activo4U.....	Erreur ! Signet non défini.
	8.5 User Testing	Erreur ! Signet non défini.
	8.6 Final MVP – Questionnaire 1 & Activo4U.....	Erreur ! Signet non défini.
9	Touchpoint 4 : Day-to-day Operational Interactions	44
	9.1 Contextual Background.....	Erreur ! Signet non défini.
	9.2 Supporting Survey Findings.....	Erreur ! Signet non défini.
	9.3 Solution	44
	9.4 User Testing	11
	9.5 Final MVP – Questionnaire 2.....	8
10	Outlook and Project Implementation	10
	10.1 Concrete Measures	10
	10.2 Key Performance Indicators.....	14
11	Further Solution Ideas.....	16
	11.1 In-Application Suggestions.....	17
	11.2 Large-Scope Suggestions	19
12	Limitations.....	21
13	Conclusion	23
15	References.....	25

Introduction

In the constantly changing landscape of digital banking, ActivoBank, a key player in Portugal, faces a distinctive challenge. Despite offering a wide range of banking services that cater to various customer needs, ActivoBank is often utilized as a secondary, rather than primary, banking choice. While successful in attracting customers to open accounts, ActivoBank faces difficulties in generating significant revenue from key financial products such as loans. This is due to customers primarily engaging in basic banking activities with ActivoBank rather than considering it for more substantial financial transactions.

To address this issue, ActivoBank has requested our assistance in exploring the reasons behind this trend and devising a comprehensive solution to their challenges. Our consultancy project is primarily focused on enhancing ActivoBank's mobile application, which is crucial in shaping customer perceptions, boosting engagement, and building meaningful relationships.

Our approach involves extensive research drawn from literature, competitive analysis, and survey findings. We propose several integrative solutions for the existing ActivoBank application, designed to enhance engagement with the bank itself and its products at various stages of the customer journey. Our solutions involve sophisticated, self-developed methods to segment customers based on the benefits that the bank's products can provide them, presenting a personalized experience and tailored product offerings. Additionally, we introduce an advanced recommendation system within the application. This system is crafted to effectively present ActivoBank's products to the right target audience, thereby increasing the overall customer lifetime value. Beyond the presentation of our solutions, we provide ActivoBank with a detailed implementation plan. This plan not only outlines the steps for successful project execution but also offers insights and recommendations for its realization. With the solutions and measures we propose, we want to support ActivoBank in going beyond the basic banking functions to become the preferred partner of its existing and new customers for important financial decisions.

Group part

This thesis is structured as follows. Chapter 1 introduces ActivoBank. Chapter 2 outlines our problem statement and sets forth our research questions. Chapter 3 conducts a comprehensive literature review in the field of digital banking. In Chapter 4, we outline our methodology, encompassing research design, data collection, analysis, Minimum Viable Product (MVP) development, and testing. Chapters 5, 6 and 7 delve into our research questions, examining customer hesitancy factors and exploring ActivoBank's in-application onboarding process, respectively, with MVP solutions proposed for key touchpoints. The subsequent chapter presents a future outlook and actionable steps for ActivoBank, along with expected benefits and additional solution ideas. We conclude the thesis by reflecting on its limitations and the scope of our study.

1 Bank Introduction: ActivoBank

To kick off our consultancy project, we delve into a comprehensive overview of ActivoBank, a Portuguese financial institution, and our work partner in this project. This overview highlights ActivoBank's key operational aspects, market positioning, and strategic initiatives within the evolving digital banking landscape.

1.1 Overview of ActivoBank

Established in the early 2010s, ActivoBank is a financial institution belonging to the Millennium BCP group. It stands as a pioneering digital-first institution, with the main objective of becoming one of the first “smart banks” in Portugal, with no fees, different branch timetable, and immediate release of account cards. Driven by innovation, transparency, and reliability, ActivoBank is committed to providing its customers with an exceptional banking experience by leveraging cutting-edge technology.

At the heart of ActivoBank's philosophy is a transparent pricing structure, uniquely featuring no account initiation fees as a key selling point. Clients appreciate the simplicity of opening an account without charges and pay only for the specific benefits they select, underscoring ActivoBank's commitment to a value-driven approach. To satisfy the diverse needs of its customers, ActivoBank offers a comprehensive range of products and services in five product categories, including financial plans, cards, loans, insurance, and investment opportunities. This product range meets a wide range of financial requirements, from everyday banking needs to long-term investment strategies. In addition to its digital offering, ActivoBank also maintains a network of 16 physical branches strategically located in and around Lisbon. These branches, with extended opening hours, cater to customers who prefer in-person banking services, providing them with the option to engage with the bank in a more traditional setting. This unique combination of digital accessibility and physical presence highlights the bank's commitment to meeting the preferences of all its customers.

Group part

ActivoBank's strategic approach extends to its marketing efforts, with a focus on engaging a younger, digitally savvy demographic. Through the utilization of social media platforms such as Facebook, Instagram, YouTube, and LinkedIn, ActivoBank effectively connects with its target audience, recognizing and addressing their specific needs and preferences.

Throughout its history, ActivoBank has been recognized and acclaimed for its innovative and transformative impact in the digital banking sphere. The institution has received several prestigious awards, including the Consumers' Choice 2022, the 5 Star Award, and the Powerful Brand awards.

With a strategic focus on the digitally engaged population, ActivoBank, with an average customer age of 38 and 63% falling within the 25 to 44 age range, is positioned to cater to the financial needs of this core target group. The bank's vision revolves around empathetically understanding and addressing the day-to-day financial concerns of consumers, aligning its mission with the utilization of technology to provide a tailored and exceptional banking experience. ActivoBank thus aims to place consumers at the forefront of the brand, supporting them throughout their financial journey.

(Freitas, Rodrigues, and Santos Cruz, Company Presentation on Teams, September 25, 2023)

2 Problem Statement

After introducing our work partner in this project, we are taking a deeper look at the proposed problems that are supposed to be tackled within this thesis. They are split into the challenges that ActivoBank is facing and the objectives we aim to achieve.

2.1 Challenges

In the dynamic landscape of modern banking, customer centricity is paramount for the sustained success of financial institutions (Bellens and Mastropietro 2023). However,

Group part

ActivoBank, despite its digital positioning, has recognized critical challenges that are hindering its growth and profitability.

Those challenges are as follows:

1. A notable portion of ActivoBank's customers engage with the bank for simple banking activities but do not perceive it as a financial partner for significant, revenue-generating financial actions.
2. Although ActivoBank offers a wide-ranging product portfolio designed to meet diverse customer needs, the bank encounters difficulties in effectively engaging customers and encouraging them to utilize these offerings.

2.2 Objectives

This thesis is dedicated to developing strategies for ActivoBank that address these specific challenges. Jointly guided by the university and ActivoBank, the scope of this project is focused on offering solutions within the bank's existing mobile application. Consequently, the proposed solutions do not delve into altering the bank's overall positioning, product range, or broader marketing strategies. Within this focused approach, the following research-related objectives, aiming to understand the roots of certain phenomena through empirical research, and development-related objectives, seeking to analyze a topic and address it through product development, are delineated:

Research-related Objective

The research-related objective revolves around understanding why a significant number of customers -in an era where digital banking is becoming increasingly popular- still hesitate to choose digital banks like ActivoBank as their primary financial institution. This means that customers, despite the convenience offered by digital banks, often refrain from utilizing these platforms for significant financial services such as loans or insurance. Hesitations like this specifically impact revenue generation for ActivoBank since merely opening an account with

Group part

the bank incurs no cost for the customer and thus results in no revenue generation for the bank. One aim of this paper is, therefore, to uncover the reasons for the aforementioned customer behavior. By understanding the motivations and rationale behind these choices, we can gain a clearer picture of the factors that influence customers' decision-making when selecting a primary banking provider. This insight can then be used to develop strategies to improve customer engagement and encourage them to utilize ActivoBank for a wider range of financial services. Building up on this, the research-related objective is the following:

- Investigate the factors contributing to customers' hesitancy in choosing digital banks like ActivoBank for major financial services.

To clearly define our research objective, we formulate our first research question (RQ1), which this thesis aims to answer in the following chapters:

What factors influence customers' hesitancy in choosing digital banks, like ActivoBank, for substantial financial services?

MVP Development-related Objectives

Besides customers' hesitancy in considering ActivoBank as their partner for substantial financial services, another significant challenge for ActivoBank is engaging their customers effectively with their product offerings and increasing their customers' lifetime value. The latter is especially challenging in a highly competitive market where customer expectations are constantly changing (Sirinivaz and Ross 2018). Holding onto customers and ensuring they stay loyal is vital for the bank's profit generation and thus, is of utmost importance. This thesis aims to present a practical solution manifesting as a MVP. This product, designed to offer support from the customer onboarding, through the entire customer journey, seeks to enhance the overall customer experience and foster a relationship based on trust. To build upon this

Group part

foundation, we are thus aiming to achieve the following development-related objectives with our project:

- Develop and propose a solution based on comprehensive reasoning and testing that can be integrated into the current ActivoBank mobile application and achieves the following:
 - Enhanced customer engagement by increasing customer interaction with the bank's diverse range of products.
 - Increased customer lifetime value by persuading the customer to consider ActivoBank as the right partner for major financial transactions.
 - Customization based on needs by offering products tailored to individual customer interests, enhancing personalization and relevance.

Resulting from the development-related objectives, the second research question (RQ2) results as follows:

How can ActivoBank enhance customer lifetime value and engagement with its product offerings through the integration of an innovative MVP within their mobile application?

The present thesis primarily focuses on RQ2 to develop a narrow, yet holistic and practical solution tailored for ActivoBank. Findings from RQ1 offer initial insights into customer behaviors, guiding the solution development in RQ2.

2.3 Four Strategic Touchpoints: Mapping ActivoBank's Customer Journey Challenges

In order to approach RQ2, we have identified four key touchpoints (TPs) along ActivoBank's customer journey in collaboration with the bank. The four TPs serve as both focal points for our project and structural elements to organize the thesis. A solution is provided to challenges in each respective TP. 'Touchpoints', as defined by Halvorsrud, Kvale, and Følstad (2016), are instances in which customers interact with service providers. These interactions are crucial in shaping the overall customer experience. For an interaction to be considered a

Group part

touchpoint, it must be noticeable to the customer, occur during a specific instance of customer-service provider interaction, and involve some form of communication or interaction between the customer and the service provider, influencing the customer's perception of the service (Halvorsrud, Kvale, and Følstad 2016). Below, the four TPs are defined.

TP 1: Pre-Onboarding Interaction

Within the scope of this thesis, we limit this TP to the first interaction that the customer has with ActivoBank within their mobile application. Thus, TP1 describes the event occurring upon the opening of the application after the download, and before the bureaucratic registration process.

TP 2: Bureaucratic Onboarding Procedure

This TP focuses on the bureaucratic steps necessary for opening a bank account within the ActivoBank application. As per ActivoBank's guidance, the thesis refrains from proposing direct solutions to alter the procedure in place. However, we believe that TP2 shows room for improvement. Therefore, we offer insightful suggestions aimed at optimizing aspects of the bureaucratic onboarding process in Chapter 11.

TP 3: Post-Onboarding Interaction

Within this TP, we refer to the timeframe immediately after the process of opening a bank account. We are still operating just within the mobile application.

TP 4: Day-to-Day Operational Interactions

This refers to the customer's lifetime after the previously described interactions. We are aware that this TP does not describe one specific moment in time, but rather a series of communication efforts throughout the entire customer journey after the onboarding processes. However, as we will be looking at customer retention as a concept within this touchpoint, we will consider the series of points in time as one for simplicity.

3 General Contextual Background

After setting the scene for our thesis, we now delve into the digital banking environment, exploring its definition, distinctions with traditional banking, and its current landscape in Portugal. Understanding these key elements is crucial for establishing a clear context for this thesis, and for developing effective strategies for ActivoBank to enhance its digital banking offerings.

3.1 Definition of Digital Banking

Digital banking is a comprehensive term that combines online banking and mobile banking services, offering a unified platform for users to manage their financial activities. Online banking, accessed mainly via a bank's website, allows tasks like checking balances, paying bills, and applying for financial products. On the other hand, mobile banking, through dedicated apps, offers on-the-go features such as mobile check deposits, fund transfers, and bill payments. These apps also often include peer-to-peer payments, and alerts for low account balances. By combining online and mobile banking, digital banking enables users to access banking services conveniently and efficiently (Napoletano 2021).

3.2 Comparative Analysis: Traditional Banking versus Digital Banking

Traditional banking and digital banking offer similar products, but differ in accessibility, customer support, financial services, affordability, security, and transaction methods. Traditional banks rely on physical branches, face-to-face interactions, and a wider range of physical services, while digital banks offer 24/7 access, online support, real-time financial tools, competitive rates, cybersecurity, and mobile integration. (Théaud 2023).

The Portuguese Banking Sector

Portugal's banking sector is a dynamic blend of traditional and digital banking services. At the heart of the traditional banking infrastructure is the Multibanco network, which offers a

Group part

comprehensive array of ATMs and point-of-sale terminals, connecting a variety of banking institutions. Simultaneously, solutions like *MB WAY*, which provides a range of digital payment and banking services are central to digital banking in Portugal (MBWAY 2023).

Even after the decline in the number of physical bank branches in the past decade, Portugal maintains a significant density of branches, with about 32.8 per 100,000 people, nearly triple the global average. The banking sector in Portugal is made up of 143 credit institutions, including 61 banks, 79 Mutual Agricultural Savings Banks, and three Savings Banks, ensuring a strong national presence with 3,363 branches. Employment in this sector is substantial, with 43,915 professionals. The ATM network is extensive, with 13,516 ATMs available, 11,346 of which are integrated into the Multibanco system known for its interoperability and user-friendliness. The remaining 2,170 ATMs are operated independently. The retail and commercial sectors benefit from an extensive network of 399,445 point-of-sale terminals, facilitating seamless card payments and electronic transactions across Portugal. (Associação Portuguesa de Bancos 2022)

Whether traditional or digital, most banks in Portugal are members of the Portuguese Banking Association, with the Banco de Portugal serving as the regulatory authority. This ensures the stability and compliance of the banking sector (MBWAY 2023)

Competitive Landscape of Banking in Portugal

Similar to the global banking industry, the banking industry in Portugal is highly competitive, with traditional banks offering a wide range of services through physical branches, while digital banks operate mostly online, focusing on convenience and low fees. Digital solutions have grown, especially among younger consumers, but traditional banks still dominate, with many launching digital platforms to compete. Figure 1 below shows selected relevant competitors.

Group part












Traditional Banks						
						
Target Audience	General, Expats	General, International	General, Expats	General, Public Sector	General, Businesses	
Notable Features	Largest private bank wide service range	Part of a global banking group	Known for innovation and technology	Largest public sector bank in Portugal	Strong corporate services	
Digital Banks						
						
Target Audience	Tech-savvy, Young Adults	Tech-savvy, International	Tech-savvy, Travelers	International, Travelers	Tech-savvy, Young Adults	General, Tech-savvy
Notable Features	Accessibility and ease of use	European reach, user-friendly interface	Multicurrency accounts, financial tools	Efficient international transactions	User-centric interface, budgeting features	Part of Santander Group, wide product range

Figure 1: Competitive Landscape

Looking at traditional players in the Portuguese market, a variety of banks are relevant to consider. Millennium BCP, the leading private banking institution in Portugal and parent company of ActivoBank, provides an extensive portfolio of offerings that encompass individual and commercial banking, investment options, and insurance products (Millennium BCP 2023). Novobanco, another large player, is frequently chosen by customers due to its cutting-edge products and solid internet banking capabilities, as well as its specialized services catering to the expatriate community (Novobanco 2023). Banco BPI is favored for its widespread presence in Portugal, marked by a considerable number of branch locations and ATMs (Banco BPI 2023). Banco Best is acclaimed for its extensive array of digital offerings, featuring a celebrated online platform, and for its adaptability in offering an assortment of account types, in addition to investment and insurance options (Banco Best 2023). BancoBIC is noted for its specialized and individualized customer service, drawing in customers who prefer a more classic and tailored banking experience (BancoBIC 2023). Santander Totta, a member of the international Santander Group, is frequently selected for its solid reputation, offering global banking

Group part

solutions that are advantageous for expatriates or individuals with international financial requirements (Santander Totta 2023).

Transitioning into the digital domain, a spectrum of Portuguese and non-Portuguese digital banks is offering Portugal-based customers a modernized banking experience.

ActivoBank, our partner in this work project, is widely recognized for its no-cost, accessible mobile banking solutions (ActivoBank 2023). The German-based online bank N26 has built a reputation for its straightforward mobile application, minimal fees, and a simple process for setting up new accounts (N26 2023). Openbank, associated with the Santander Group, attracts users with its extensive, fee-free banking offerings (Openbank 2023). The British fintech firm Revolut offers a range of services including complimentary digital debit cards, foreign currency and cryptocurrency exchanges, direct payments between users, and financial planning tools, all through its application (Revolut 2023). Monzo, a digital bank from the UK, enables convenient account management in Portugal through its user-friendly application (Monzo 2023). Wise, formerly known as TransferWise, provides a multi-currency account, ideal for those who often travel, work internationally, or need to conduct international money transfers (Wise 2023). Digital banks, exemplified by pioneers like Revolut (valued at \$33b) and N26 (valued at \$9b), have experienced a remarkable surge in funding and valuation, underscoring their disruptive influence. With valuations surpassing those of many traditional banking giants, such as HSBC (valued at \$18.01b) and Santander (valued at \$15.42b), the rise of digital banks reflects a profound shift in the financial landscape (Statista 2022).

4 Methodology

To address the challenge of enhancing customer engagement, and establishing ActivoBank as its customers' preferred primary banking choice, we employed a thorough methodology for this work project. This chapter follows a methodical narrative that explains every stage of our project's development. Commencing with a general explanation of our project

Group part

approach, the chapter progresses seamlessly through the methodologies applied in the distinct phases of our project. The first section lays the foundation for a strong theoretical framework by outlining the approach used to perform a thorough literature review. Next, we address the details of our empirical research and ideation processes, focusing on both RQ1 and RQ2. The chapter concludes with explanations of the methods we used to create and test our MVPs.

4.1 Project Approach

In the initiation of this master's thesis, a foundational step was the establishment of common ground for the scope and depth of the project. To do so, we held an in-person kick-off meeting with ActivoBank where we introduced ourselves and our understanding of the project underway. During this meeting, ActivoBank provided us with information about the bank, its customers, and offerings as well as the challenges that we are supposed to tackle. Shortly thereafter, we agreed on regular points of communication with both parties to ensure highly collaborative work. The next meeting was held to ensure a decent approach to segmenting the problem into the four proposed touchpoints. As agreed, TP2 was then excluded from the thesis scope. Further collaboration with the work project partner was made possible via e-mail communication. After the MVP Idea generation phase, we requested further feedback on the prototype and the strategic approach behind it. Parallel to waiting for an answer, we further developed the MVP for the final presentation. With the help and feedback of ActivoBank, we agreed on the provided solution approach, which is elaborated on in the further course of this paper.

4.2 Literature Review Methodology

The structure of the literature review approach revolves around the four touchpoints. Initially, in the general contextual background chapter we conduct a thorough review of the general trends in digital banking, providing a comprehensive understanding of the landscape

Group part

and associated findings. Then, we use a more targeted approach, delving into the specific touchpoints and conducting specific research on varied aspects relevant to each stage of the onboarding process. This dual-stage methodology ensures a well-rounded exploration, combining a broad contextual background with in-depth insights tailored to each touchpoint. Each touchpoint chapter includes a review of subject-specific literature, followed by an examination of ActivoBank's current practices.

4.3 Empirical Research Design

In this work project, we employed a mixed-methods strategy to conduct empirical research, integrating qualitative and quantitative data collection techniques through interviews and an online survey to thoroughly examine consumer perceptions and behaviors within the context of digital banking. We specifically utilized this strategy to carefully customize the study to Active Bank's particular requirements and product offerings, looking for case-specific insights that are essential for developing a solution that is pertinent to their situation.

4.4 Interviews

Interview Design

Our research methodology included conducting semi-structured interviews with individuals who utilize digital banking services. This chosen type of interviews combines pre-determined questions with the flexibility to explore topics in more depth or ask follow-up questions based on the respondents' answers. The majority of the questions are open-ended, allowing for a more in-depth understanding of the participants' perspectives. This approach was chosen to learn more about their experiences with digital banking and to thoroughly examine their detailed customer needs and preferences.

Interview Sampling Method

The interviews were conducted using a purposeful (non-probability) sampling method, specifically focusing on a target group of individuals who are active users of digital banks. This method was chosen to gather insights from a specific, relevant population with direct experience and interactions in the domain of digital banking. By focusing on this population, the study could successfully examine the complexities and subtleties of using digital banking, ultimately resulting in more informed and specialized recommendations for enhancing customer loyalty programs and digital banking services.

Interview Data Collection

The data collection for our interviews involved a total of 10 participants, who were relatives or friends of ours and customers of digital banks. This approach facilitated a more accessible and comfortable engagement, promoting an open and candid exchange of experiences and opinions regarding digital banking.

Interview Structure

The interview questionnaire was meticulously structured to gain comprehensive insights into participants' perspectives on digital banking. For reference, the interview questionnaire can

Group part

be found in Appendix 3. Beginning with essential demographic inquiries, the questionnaire aimed to establish a foundational understanding of the respondents. Subsequently, it navigated towards discerning specific attitudes and behaviors concerning digital banking usage. The inquiry into the factors influencing the designation of a digital bank as a secondary account provided critical insights into the decision-making process of participants. Additionally, the questionnaire explored the potential for interviewees using their current digital bank for significant financial transactions, shedding light on the level of trust and confidence in digital banking services. Furthermore, by inquiring about factors contributing to bank loyalty and the willingness to consider personalized financial advice, the questionnaire aimed to uncover the motivations and considerations influencing respondents in selecting and engaging with digital banking services. Lastly, understanding the additional services or features that would attract respondents to use a digital bank as their primary choice in the long term provided valuable perspectives for enhancing digital banking offerings.

Data Analysis

The interview data was carefully examined to find reoccurring themes and prevalent patterns in the responses from the participants. The responses were sorted according to commonalities, which made it possible to identify overarching patterns. These trends made it easier to generalize findings and gave rise to an in-depth understanding of what customers are looking for and requiring from digital banking.

4.5 Survey

Survey Design

In addition to the interviews, we collected data through a self-administered online survey. The survey's questions were all newly created to address specific concerns that were not addressed in previous studies. The survey questionnaire served as a structured tool used to

Group part

collect numerical data on the demographics, preferences, behaviors, and opinions of respondents regarding their experiences with banking and digital platforms.

Sampling Design Method

The snowball sampling approach was used to ensure that the survey sample was roughly normally distributed, as required by the Central Limit Theorem (Kwak & Kim 2017). The survey was forwarded to relatives and friends via social media and text messages, who subsequently shared it with additional potential participants.

Data Collection

A sample of at least 120 respondents is required to obtain sufficient information and a sample that is representative of a population. Hence, the survey is in English to maximize response rates, and it was shared across a variety of social media channels, reaching a large number of potential participants. The respondents were invited to complete the survey, which would take them an average of 9 minutes to finish. The survey was offered for one full week; however, the required number of responses was collected within five days. It reached 256 respondents, from which 222 people completed the survey in its entirety, which makes the analysis statistically significant. The sample consists of 45% of male respondents and 55% of female. The respondents (46%) were predominantly between the ages of 18 and 24, and 18% between the ages of 25 and 34, indicating that the younger age groups are considerably overrepresented in the data. Appendix 2 contains statistical results and graphical representations to better show these demographic disparities.

Survey Structure

The survey consists of 16 questions, excluding the demographics, and were separated into 6 sets, including one set for each of the four predefined touchpoints. The survey questionnaire is located in Appendix 1. To better understand the sample, the first set of questions (Q1-Q5) tries to gather fundamental demographic data. The second set of questions

Group part

(Q6-Q9), which are more technically oriented, intends to gather information about respondents' preferences and apprehensions regarding banking and, particularly, digital banking. The third set of questions (Q10, Q11) then asks about the pre-onboarding procedure that takes place before opening a bank account. Here, numerous factors on respondents' preferences and decisions regarding opening a bank account are studied. The fourth set of questions (Q12-Q14) tries to understand more about the preferences and experiences of the respondents while opening a bank account. The fifth set (Q15-Q18) aims at evaluating their willingness to share information post-account opening and the incentives that motivate them to do so. The final question set (Q19-Q21) consists of inquiries about using banking services on a regular basis. Here, the respondents' daily application usage and preferred methods of communication are analyzed.

Data Analysis

SPSS was employed for data management, cleaning, and analysis. The collected data underwent a rigorous cleaning process to eliminate any inconsistencies or outliers, ensuring the dataset's integrity. SPSS was instrumental in organizing the extensive survey data, allowing for efficient analysis of demographic information, preferences, behaviors, and opinions related to digital banking. Through this software, statistical tests and measures were applied to derive frequencies and other relevant indicators, enabling a deeper understanding of the relationships between various variables. The results of the SPSS data analysis can be found in Appendix 3.

4.6 Ideation Methodology

The empirical information gathered from the survey and interviews served as a fundamental foundation for the brainstorming process. Through an in-depth review of both the direct responses from customers and the statistically analyzed survey data, we were able to derive insightful information about their preferences, behaviors, and pain points. These insights were cross-referenced with established literature on fostering customer loyalty within the

Group part

banking industry, ensuring a comprehensive understanding of proven methodologies and successful strategies. Moreover, in addition to our primary research and existing literature, we conducted an in-depth analysis of competitor applications and services. Through this analysis, we were able to pinpoint the industry's best practices, new features, and flaws. Using this information, we customized our strategies according to ActivoBank's particular problems and opportunities, making sure that the suggested approaches were not only innovative but also stood out from the competition.

As a result, design thinking was crucial to the brainstorming process since it fostered a creative and human-centered approach (Tschimmel 2012). Design thinking is an approach to problem-solving that prioritizes understanding and satisfying the needs of end users while emphasizing empathy, creativity, and iteration to create innovative solutions.

Our ideation sessions were marked by cooperative in-person meetings that preserved a customer-centric approach while promoting open communication, unrestricted brainstorming, and the development of varied viewpoints. Starting from scratch and working iteratively and dynamically, we generated a wide range of possible solutions by building on each other's suggestions. By applying design thinking concepts, we developed a user-centric perspective and were sensitive to the requirements and issues faced by ActivoBank's clients. With the help of this approach, we were able to develop creative solutions that also met the specific requirements of bank clientele.

All things considered, our ideation process included the knowledge gained from competitor analysis, previous research, design thinking concepts, and group brainstorming sessions. Through the combination of these diverse methods, we were able to develop a range of creative, case-specific solutions that have the potential to improve ActivoBank's customer loyalty.

4.7 MVP Development Methodology

One of the goals of this thesis is to develop a MVP, encapsulating our solution approach. An MVP is the simplest solution of a product idea which independently functions, and one can generate feedback with. In its essence, it is a prototype for testing a new solution or product in the market. It was first established as part of the lean start-up method in 2001 in Silicon Valley and acts as a crucial component of business generation, mostly in the start-up scene (Kuenen 2018). However, MVP development can also make sense for established companies to test digital products in a simple format for efficiency and acceptance. No matter the utilization area, MVPs are highly useful for a plethora of things. In our case in the project with ActivoBank, we aim to leverage the power of MVPs for product design and validated learning (Duc and Abrahamsson 2016).

Compared to a normal MVP development in a start-up environment, our prototyping is taking on a rather different form. Since we entirely operate within ActivoBank's already existing application -as per the company's request- we do not create an MVP for the purpose of acceptance testing, but rather to showcase and materialize our solution approach and test certain elements within that idea. Thus, our literature research, as well as our empirical research act as proof-of-concept validation within the application. Due to this more advanced level of prototyping, we chose to develop a high-fidelity MVP. Compared to the low-fidelity MVP, this type of prototype shows a higher level of functionality and visual representation. We incorporated ActivoBank's graphics, colors, and layouts to encourage a more visually accurate representation. Furthermore, the functionality must closely resemble the one of the final product to simulate user experience as accurately as possible, to foster realistic interactivity.

Of the different types of high-fidelity MVPs, we selected a Concierge MVP. This is a type of prototype that is most often used for developing and testing multifunctional software solutions, akin to our goal of this thesis. A Concierge MVP simulates the product's design and

Group part

usability elements, while a human fulfills its primary functions (Nadeem 2023). Normally, this ensures a way to test the effectiveness of the product without utilizing too much budget and workforce -scarce resources in the start-up environment. For us, this particular type of MVP serves an additional function. It allows us to design the outer appearance as well as the logical flows behind the application interfaces without having to use complex code, in which none of the group members are trained. Thus, -by acting out the main functions in the background ourselves- we can test all product features in a life-like environment, providing accurate user behavior data, on whose basis we can develop the product further.

Aiding us in this endeavor was the collaborative interface design tool 'Figma'. Through this application, we could translate our ideas into tangible designs, while fostering cross-functional collaboration. With the creation of so-called 'flows', a "network of connected frames that form a path through a prototype" (Figma n.d.), we were able to simulate a real experience for the end-user, which also facilitates the explanation of our solutions in this thesis.

4.8 MVPs Testing Methodology

Creating an MVP is a crucial step in transforming our solution into tangible ideas for ActivoBank. Additionally, the process of testing and validating our MVP is of high importance to evaluate and improve its strategic alignment with the purpose of this work project. It is our goal to expand this evaluation beyond the testing of technical issues, to foster a more holistic approach to MVP testing. Thus, our testing strategy specifically integrates three interconnected dimensions: functionality, content, and design.

This multi-faceted testing approach appreciates the symbiotic relationship between the three dimensions. While each testing dimension holds its individual merit, we underscore the importance of closing the testing loop. This signifies the convergence of insights from diverse testing perspectives, resulting in a refined and optimized MVP. Note that for TP1 as well as the second part of TP 3, no functional testing is involved, since both solutions solely center around

Group part

content and design with no algorithmic or calculation approach. Due to our approach of separating the individual solutions into multiple MVPs, they were tested and reiterated separately.

5 Research Question 1

Having established the methodology with which the present thesis is carried out, we now begin with answering RQ1. RQ1, as introduced in the problem statement aims to detail the reasons why customers are hesitant to choose digital banks like ActivoBank for major financial services:

What factors influence customers' hesitancy in choosing digital banks like ActivoBank, for substantial financial services?

This marks the first challenge presented by ActivoBank in this thesis. Although not the primary focus of the report, we endeavor to address it by presenting empirical evidence and analyzing data to provide insights and recommendations for ActivoBank's future actions. The insights derived from this process are also important to the decisions made in solving the various TPs. In preparation for addressing RQ1, we collected primary data to discern the diverse demands of individuals incorporating digital banks into their lives. We conducted interviews with consumers managing multiple bank accounts, one of which being a digital bank account. These interviews delved into various aspects of utilizing and maintaining a digital bank account, exploring topics such as the rationale behind having two separate accounts, distinctions between primary and secondary accounts, opinions on digital banks compared to traditional ones, usage of banking apps, and factors influencing bank loyalty. These topics are crucial in addressing RQ1.

5.1 Analysis of Findings of the Interviews

The following findings of the interviews are condensed into general answers for simplicity. Appendix 3 reveals a more thorough depiction of the interviews.

When asked about the distinction of primary and secondary accounts, most interviewees labelled their traditional bank as their primary account. However, the reasons as to why people hold more than one bank account are less uniform. The interviews yielded responses, indicating that minimal fees on transfers and favorable exchange rates offer significant value, particularly for transactions abroad. Additionally, the visual separation of funds emerged as a helpful tool for users in budgeting effectively. Interestingly, for young adolescents, the digital bank serves as a symbol of independence from their parents.

When inquired about the hesitancy of switching their online bank to their main financial service provider, convenience was a common answer. Participants highlighted high switching costs as the reason for their loyalty to their primary bank. Additionally, concerns were raised about the security of their money and the reputation of the institution in comparison with a more established traditional bank. Respondents pointed towards history, reputation, and the sense of security as major deciding factors for their trust within traditional banks.

On loyalty, most respondents stated loyalty to their primary/traditional bank simply due to inertia, indicating familiarity as a major deciding factor, which takes up an even larger role if family members also use it. A portion of respondents elucidated that monetary incentives would most likely be the most effective in changing a person's choice of primary bank. Other factors influencing loyalty include a well-thought-out UX/UI for the application, low fees for maintaining an account, and good customer support.

Upon analyzing the responses obtained from the interviews, we deduce that the predominant reasons for individuals opting for digital banks stem from the ease of account opening and the cost-effectiveness of maintenance -a conclusion substantiated by current

Group part

literature (Feger 2023). This preference is further facilitated by the relevance of unique selling propositions offered by these digital banks. For instance, Revolut's economical exchange rates prove to be a significant advantage for individuals traveling abroad, while N26's provision of three free cash withdrawals abroad caters to the convenience of the same demographic.

The reason these digital banks stay the secondary account largely comes down to convenience, high switching costs, and further insights of the 'Prospect Theory'. The 'Prospect Theory' suggests that people tend to feel the loss of a certain amount more strongly than the gain of the same amount (Chen 2022). This is because of a cognitive bias known as 'Loss Aversion', which means that we are more sensitive to losses than to gains, a concept originally articulated by Kahneman and Tversky (1979). Putting this in direct relation to banking, customers take the notion of financial risk more seriously than the potential gain from a competitor's unique offerings. A study states that in 2018, only 4% of people in the US switched banks, citing a high level of satisfaction with the services provided (J.D. Power 2019). Our findings align with another study, which highlights that customers are often deterred from switching primarily due to the perceived hassle involved. This is followed by the beliefs that all banks are equally undesirable and a lack of awareness about alternative options (Kurt 2019). Assuming no major issues are prevalent with a certain bank, such as inability to use services or access money for extended periods of time, no significant reasons are presented for most people to switch financial service providers. Additionally, digital banks are relatively new in the landscape of banking services. The general population still expresses concerns about the security of their money in such institutions, where there are little to no personal interactions. With the rise and consistent threat of cyber-attacks, consumers have dwindling faith in the security of such institutions (Artimonia 2023).

To concretely answer RQ1, the reason why consumers hesitate to use digital banks for major financial transactions such as loans is due to multiple reasons. The familiarity they have

Group part

with their current bank stands as a major setback for consumers to make the digital bank their primary choice. Furthermore, concerns about security prevent them from fully basing their transactions on such platforms. The tendency for digital banks to remain as secondary accounts is rooted in these concerns, and without compelling reasons to foster loyalty, customers are reluctant to entrust significant amounts of capital to such institutions. Thus, ActivoBank must find a way to promote customer loyalty. As per a Spanish marketing study, customer loyalty is highly influenced by customer engagement, especially in the online banking retail industry (Monferrer, Tena, and Estrada 2019). Therefore, ActivoBank must put forward actions that enhance its customer engagement. The following MVPs, developed for each one of the respective TPs, aim to do exactly this, within the realm of RQ2.

MVP Approach 1 – Deciding Factors

MVP Approach 2 – Product Categories

The second approach is based on the five different categories within ActivoBank: Accounts & Plans, Cards, Loans, Savings & Investments, Insurance. Looking at competitors, placing product related information is a reasonable approach. Moreover, it engages users with the products right at the first touchpoint within the application. For each product category, one login page was designed allowing the user to swipe through all five different login pages. The focus for each respective page lies on appealing layout and on effectively communicating ActivoBank's product offerings. In terms of visualization, existing pictures from ActivoBank's website matching with the respective product category are shown.

The intention of the directly approaching the user with engaging slogans is to underline that ActivoBank is offering products matching the personal needs of the user. Therefore, engaging and precise slogans including second person pronouns like "you" and the respective product category are used. Figure 7 below shows the approach based on ActivoBank's product categories.

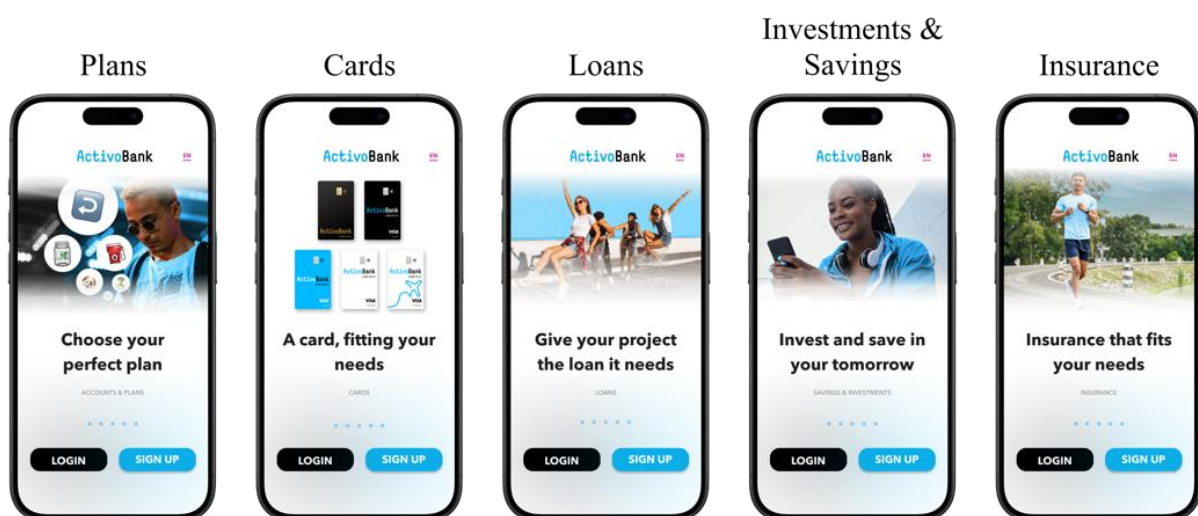


Figure 2: MVP Approach 2

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As described in Chapter 2, the initial trigger for the present project is ActivoBank's struggle in sensifying their customers for their broad product offering and ultimately convincing them to consider ActivoBank as their financial partner for substantial financial products that exceed simple daily financial activities. Therefore, it is reasonable to engage customers with ActivoBank's product offerings TP1, rather than factors identified within the survey and used for the development of the previous MVP. Moreover, as exemplified by best practices from the competition (e.g Revolut), providing product related information on the login page is a widespread approach.

MVP Approach 3 – Recommendable Features

Like Approach 1, Approach 3 is based on results from the conducted survey. The first approach focuses on the most significant factors influencing people's decision to pick one bank over another. This approach focuses on the factors which are the most influential in persuading individuals to open a bank account (Q10, Appendix 2). Ranked by priority, these pointers follow as: interest rates and fees, online banking features and accessibility, and customer reviews and reputation. The approach is shown in Figure 8 below.

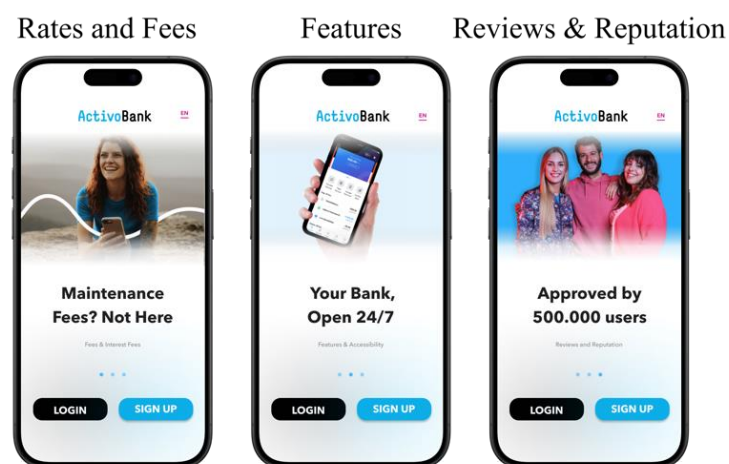


Figure 3: Content of MVP in Approach 3

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A hero image is developed each factor which effectively communicates the respective factor, engaging and user centric slogans are used to increase personalization and aids the communication of. Based on the survey, the most influential factors are presented first.

5.2 User Testing

A series of interviews were carried out to gauge the effectiveness of the different approaches, following a semi-structured guideline. The interview starts with explanations of the core of the present thesis, the problems identified, the solution and reasoning for the MVP, followed by presenting the solution to the participant.

The designs are presented first, where the participant is asked to choose one and give reasoning as to why they prefer it. Upon their choice, the three different MVP approaches are presented with chosen designs, the participant is asked to assess the quality of the different approaches and their effectiveness at reassuring a consumer they made the right choice in banking. Functionality testing within TP1 is not tested, for two reasons. The functional and foundational elements within a login page is very important as explained in an earlier section, it is in many ways necessary to accomplish basic and expected tasks, all designs include said elements. Furthermore, there is an industry standard for login pages, innovating along on these elements is nigh on impossible, as new functions can only be supplementary and not crucial towards a speedy registration process. For these reasons, it is in our best interest to not test out new or existing functions within the login page.

Enhanced Login Page - Content Testing

The different MVP Approaches measured the effectiveness of the information at reassuring a user of their choice in banks and were presented consecutively. Participants were asked to choose the slides they deem best for assuring them of their choice in banks, and to justify their decision. They were asked to assess their choice based on the quality of the content, the relevancy of information, the flow of information and structure of the page.

Group part

Overwhelmingly, people chose Approach 2, followed by Approach 1, and 3. The consensus for the choice came down to the informational nature of approach 2, most participants expressed that they would prefer to know the different product categories a bank offers rather than facts about the reputation or how many people use it. Refer to Appendix 5 for the content therein.

Similarly, a large portion of participants suggested a “mix ‘n match” of the approaches; the first image of approach 3 was by far the most popular as it is ActivoBank’s Unique Selling Point. It is important also to limit the number of slides in the login page to a manageable number, as there will come a point of diminishing returns on the reassurance, and potentially damaging the authenticity of the page, by way of overcompensation.

Enhanced Login Page - Design Testing

Three different designs were constructed to gauge the “familiarity” and flow of each page. Common through all three designs is the presence of a hero image (asset taken from ActivoBank’s marketing materials), subtitles to match the image, a scrolling tab indicating page destination, the ActivoBank logo, option to change languages, and finally the login and register buttons. The designs differ in the flow, structure, and placement of different elements. Interviewees were presented with a blank design template before being shown the different approaches to ensure the different designs do not impact decision making in this segment. Refer to Figure 9 for a visual representation.

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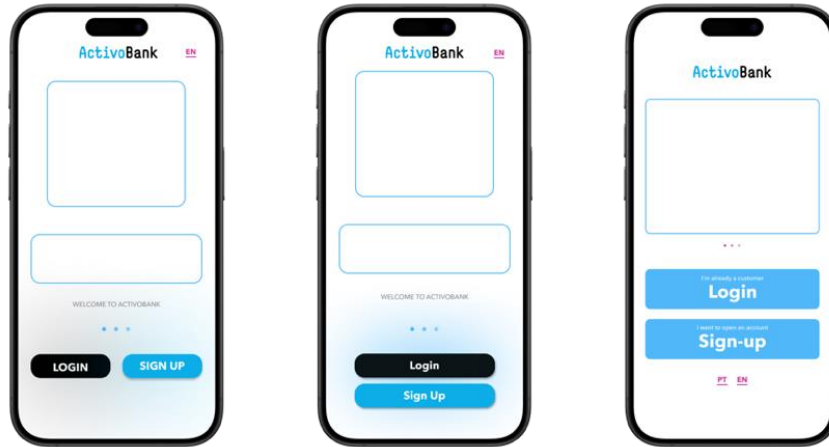


Figure 4: Three different designs within TP1

Upon completion of the interviews, results indicate an overall preference for Design 2 followed by Design 1, with Design 3 firmly in last as the least popular choice. Participants responded that the first two designs were familiar to the eye and follow a nice pattern, pointing out that the big square represented the hero image and the smaller rectangle the title descriptor of the image. The smaller buttons of the first two designs in comparison with the third design were also a factor participants pointed out as a sign of good design.

To further test the effectiveness of the structure and flow of the login page, AB testing is recommended for ActivoBank to further refine the funnel conversion rates of consumers.

5.3 Final MVP - Enhanced Login Page

The final solution for TP1 utilizes Design 2 and the second iteration of Approach 2. The proposed solution features all of the functionality available within the current ActivoBank login page: access to a login and sign-up button, and the option to change languages. In further testing of this approach with the old and new participants on the effectiveness of such pages, responses were favorable for the intent of the page. The final MVP is visualized on figure 10.

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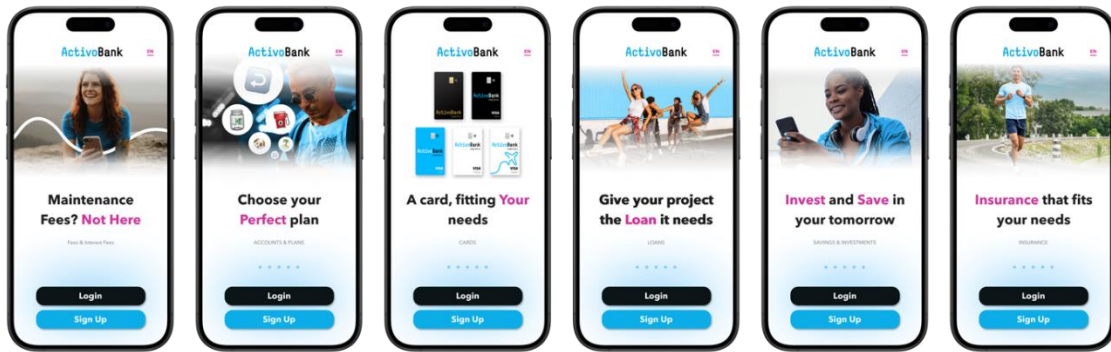


Figure 5: Final Iteration of the Enhanced Login Page

Upon reviewing the concept of the AAB approach, the final proposal prioritizes ActivoBank's USP as the first page, highlighting that no fees are charged for simply holding an account. This is then followed by informational content related to products offered within the bank. ActivoBank can expect better conversion rates through the implementation of an enhanced login page loaded with relevant information concerning the bank, its USPs, and the product mix. As explained in an earlier section, an enhanced login page is beneficial towards both non-users and current users alike, having the correct media and relevant information to target the audiences, increases the effectiveness of prior communication efforts.

6 Touchpoint 2 : Bureaucratic Onboarding Procedure

As mentioned before, TP2 focuses on the bureaucratic onboarding procedure that the customer must go through, when opening a bank account online. The main issues that need to be discussed within this chapter include the role and objectives of digital onboarding, more specifically in the banking industry, as well as the general challenges that come with these objectives. Moreover, pain points within the onboarding process must be unveiled, specifically for ActivoBank's onboarding journey. More general usability pain points are touched upon with the help of the investigative survey.

6.1 Contextual Background

Customer onboarding in the realm of digital services is a systematic process designed to guide and familiarize new users with a digital platform or service. In their study "Social Influence Tactics in E-Commerce Onboarding: The Role of Social Proof and Reciprocity in Affecting User Registrations ", the authors deduce that digital user onboarding is the process of guiding and facilitating new users to register, understand, and effectively use a digital platform or service, often through a structured set of design principles and interactive experiences. These principles aim to assist newcomers in acquainting themselves with the offerings of a digital platform and steering them toward becoming fully registered and active users (Roethke et al. 2020).

We analyzed three primary objectives of customer onboarding of digital service providers. The main goal of customer onboarding is to help new users become familiar with the product, service, or platform. This involves providing them with the information and guidance to understand the features and overall value of what's being offered. By ensuring users are well acquainted with the aspects of the service, businesses aim to speed up the learning process and relationship building. Another important objective is to create an onboarding process that is user-friendly. This means designing a journey that's intuitive, easy to navigate and aligns with

Group part

user preferences. The goal is to minimize obstacles and make it easier for users to familiarize themselves with the company while also fostering an interaction that encourages further engagement with the digital platform or service. Proof of this can be found in a study by Esteban Kolsky - CEO of the customer strategy consultancy “thinkJar”, which indicates that companies focusing on customer solutions during the first interaction can reduce customer churn by an impressive 67% (Afshar 2017). Another objective of customer onboarding is building a trust relationship between the customer and the digital service provider. Trust plays a pivotal role in fostering customer loyalty toward the company and thus must not be neglected (Nguyen, Leclerc, and LeBlanc 2013). More specifically, customer onboarding can act as a crucial catalyst for a thriving relationship built on trust. A series of experiments by Princeton University suggests, for instance, that judgments, such as trustworthiness, are formed within the first 1/10th of a second of an interaction (Todorov and Willis 2006). Applying this to the onboarding experience, research by Michler, Decker, and Stummer (2019) indicates that the mere existence of an onboarding process is a trust-building factor in itself. Thus, we deduce that a company’s onboarding experience can act as an enabler of trust. The latter objective, trust, plays an even more crucial part in a digital bank’s onboarding experience. Given the sensitivity of financial transactions, customer onboarding serves as the initial interaction that sets the tone for the customer's ongoing relationship with the bank.

Furthermore, while on the topic of digital banking, a fourth objective of the customer onboarding process becomes apparent: Regulatory compliance. Within the customer onboarding process, digital banks need to utilize “Know Your Customer” procedures (KYC) which are in place to verify and identify the identity of customers, assess potential risks of illegal intentions, and ensure that financial institutions have sufficient information about their customers to manage these risks effectively. This involves collecting personal information, such as name, address, date of birth, and government-issued identification. KYC is a subset of the

Group part

Customer Due Diligence process (CDD) and thus acts as an important first step in screening whether customers are involved in activities surrounding money laundering, fraud, or corruption (European Central Bank and Koczan 2021). CDD further aims to understand the nature of the business relationship and involves continuously monitoring the financial transactions of customers. Within the European Union, these regulations were updated in the form of the 6th Anti Money Laundering Directive in 2020 but were established in earlier predecessors of the directive. A failure to comply with the regulations could result in substantial fines for the service provider (“ACAMS Today” 2023). This means digital banks are obliged to meet the legally binding onboarding procedures in Europe.

A notable challenge arises when examining these four objectives of customer onboarding in a digital bank. The cumbersome and laborious bureaucratic procedures involved in onboarding contradict the need for a swift and seamless user-friendly experience. Proof of this can be found in a study by Lightico, which brought to light that 40% of millennial consumers abandon the onboarding process when attempting to open a bank account due to an inconvenient verification process (Melamedov 2020). In light of this challenge, banks must find innovative ways to streamline the customer onboarding procedure in digital banking. Balancing regulatory compliance with a user-friendly approach is crucial for ensuring both the security of financial transactions and a positive customer experience. The optimization of this process is not only a necessity for regulatory adherence but also a strategic imperative for fostering lasting and trustworthy relationships with digital banking customers.

Status Quo of ActivoBank’s onboarding process

Shifting our focus to ActivoBank's onboarding process, our analysis now moves from theoretical considerations to empirical scrutiny. Currently, ActivoBank offers two channels for its bureaucratic onboarding process. One via the web browser and one via the application through in-application registration. Both channels show a significantly high bounce rate with

Group part

merely 17.4% of the customers finishing the onboarding process through the browser and 24.8% via the application. This average bounce rate of 78.9% indicates potential friction during the onboarding process and a disconnect between the user expectations and the actual onboarding strategies employed by ActivoBank. Many factors may contribute to said disconnect. A more detailed analysis of the bounce rates during the onboarding process revealed that specifically the instances where private documents are required, or long documents must be read and agreed to are pain points for the customers and abandoned frequently. ActivoBank currently employs some techniques to enhance the customer onboarding. They offer a Digital Mobile Key (DMK) registration, a simple mechanism for authenticating oneself with merely a four-digit pin. However, customers must have previously applied for said DMK through a governmental website, thus it is not a usual occurrence in the average ActivoBank customer. Another offer of registration includes a video call for document validation. These videocalls are partly outsourced to a third-party provider, thus their quality cannot be ensured. Moreover, a Portuguese citizenship or residence card is a prerequisite for registration, thus it falls behind digital bank competitors like N26, who offer bank accounts specifically to expats and non-residents who live in Germany (N26 2022). This could also prove to be a challenge for foreigners who want to utilize a digital offer in Portugal. (Freitas, Rodrigues, and Santos Cruz, Company Presentation on Teams, September 25, 2023)

6.2 Supporting Survey Findings

To be able to analyze possible pain points more accurately in the onboarding journey, our survey includes questions on the usability of onboarding processes in our survey. One question investigates on the amount of time people are willing to spend on opening a bank account online (Q13, Appendix 1), which can eventually be a crucial factor for potential customers' decision to open a bank account at a bank. According to the survey results, 60% of respondents believe that thirty minutes is a reasonable amount of time to open a bank account

Group part

online, comprising the upload of legal documents (Figure 11). More generally, about 80% of respondents believe that opening a bank account should take less than an hour.

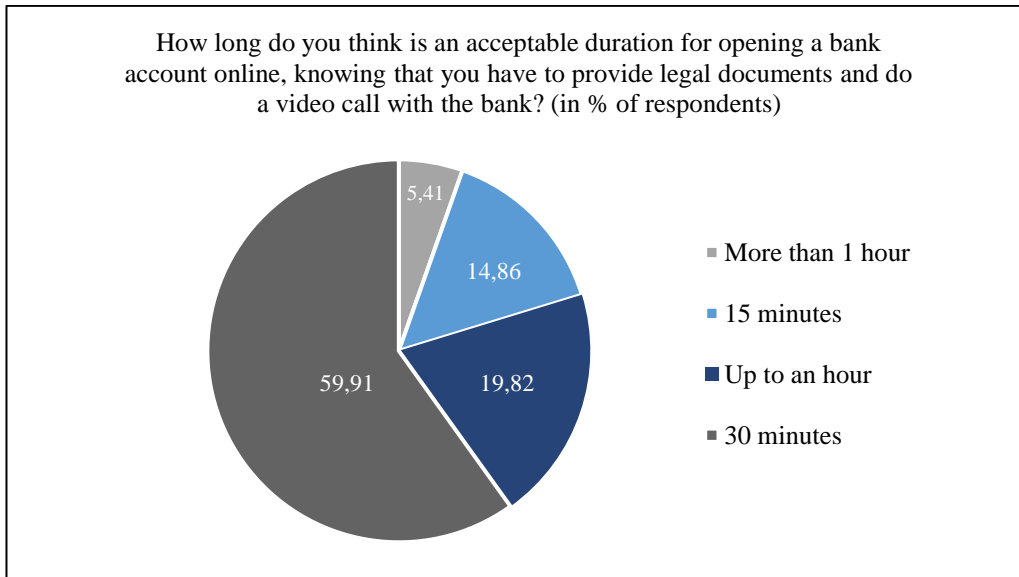


Figure 6: Pie Chart representing the Acceptability of Maximum Duration of the Online Account Opening Process

Moreover, most respondents give the following order of importance for the process of opening an online bank account: ease of use, transparency throughout, speed, simplicity, and entertainment (Q14, Appendix 2).

Additionally, in order to identify possible pain points encountered by people during such a bank account opening process, the survey includes a question about pain points during similar bureaucratic processes (Q12-1 & -2). Our results show that 37% of respondents who have previously completed bureaucratic procedures online see the lengthy duration of the latter as a main pain point, and 31% feel that the assistance offered through these processes is insufficient. These results highlight the value of promptness and thorough user assistance throughout the account opening process. ActivoBank may find these results useful in future trials when they modify their onboarding procedure. Other notable issues that respondents to the survey consistently identified as key pain points include technical glitches and excessive

Group part

documentation (Q12-2, Appendix 2), both of which should be considered while optimizing the account opening process.

6.3 Solution

As mentioned in the objectives and scope of this thesis, we will not actively discuss solutions, manifesting as an MVP, for tackling the proposed challenge of streamlining the bureaucratic customer onboarding procedure. This has been discussed with our project partner ActivoBank. It is our, as well as their belief that a hyper-focus on solving this issue would be inconvenient since the bureaucratic processes only allow for little to no adaptations of the KYC procedure connected to the onboarding. Thus, we will solely offer a limited number of suggestions in Chapter 11 to offer some aid in tackling the issue at hand.

7 Touchpoint 3: Post-Onboarding Interactions

The Post-Onboarding Interaction touchpoint is a critical point in the customer journey, representing the immediate aftermath of the account opening process within the ActivoBank application. Since the scope of this project does not involve creating a user-friendly KYC process as described earlier, the post-onboarding interaction proves to be crucial in shaping the customer's attitude toward ActivoBank.

7.1 Contextual Background

To better understand how the solution of this touchpoint was conceived, and how it will be implemented, it is necessary to first define a few key concepts. This section introduces the concept of customer segmentation in the banking industry, before elaborating on the importance of implementing a personalization strategy. These two points are both essential to the success of the TP3 of our thesis. Customer segmentation is necessary to identify the different groups of customers who are interested in the bank's financial products and services, and personalization is necessary to tailor the customer experience to the specific needs and preferences of each group. In fact, once we have identified the different groups of customers, we can then personalize the customer experience for each group.

The Concept of Customer Segmentation in the Banking Industry

Customer segmentation in the banking industry is the process of dividing a bank's customer base into smaller groups with similar characteristics. This allows banks to understand their customers better and effectively target their marketing and sales (Elharony 2023). Customer segmentation can be based on various criteria such as demographics, behavior, geography, psychographics and more (Elharony 2023). By categorizing customers based on shared characteristics, banks can create targeted marketing campaigns, develop new products and services, and improve the overall customer experience (Elharony 2023). Customer

Group part

segmentation therefore has a positive impact on customer satisfaction, loyalty, engagement, and customer lifetime value (CLV) (Carlson 2023; Raitaluoto 2023b).

Moreover, customer segmentation enables a more targeted communication strategy for new and existing customers, leading to reduced costs and increased revenue (WealthEngine 2020). In fact, if people receive customized experiences, such as personalized recommendations and tailored customer service, they will feel a sense of satisfaction and recognition. They thereby are more likely to remain loyal and to recommend their bank, which ultimately leads to higher profits (Raitaluoto 2023a).

An effective customer segmentation therefore helps banks tailor their offerings and services to meet their evolving needs, which is essential to attract and retain high-lifetime-value end-users (Michaels Fay 2023).

In this thesis, a benefit-based segmentation has been employed to categorize customers according to the perceived benefits and value they seek from a product or service (Carpena 2023). By understanding the unique desires of different customer segments, businesses can tailor their marketing strategies to resonate with each segment, ultimately improving new customer acquisition and customer satisfaction (Carpena 2023). This method aims to group users together based on the benefits they prioritize, recognizing that different customer segments may have varying needs or aspirations that can be satisfied by specific benefits offered by different products or services.

Personalization in Banking: Increasing Customer Satisfaction and Engagement

Personalization in banking involves the process of delivering unique and customer-centric experiences throughout the utilization of banking services (Savonin 2023). Creating personalized solutions leads to higher customer satisfaction and engagement (Bleier, De Keyser and Verleye 2017). It is important to understand precisely why this is the case, and to look at the figures that prove it. This section therefore takes a closer look at the benefits of

Group part

personalization in increasing customer satisfaction and engagement, providing insights into why a personalized customer journey is essential for ActivoBank.

Firstly, personalization increases customer satisfaction. In fact, the lack of personalization is a major factor in consumer dissatisfaction, with statistics showing that 33% of consumers who abandoned a business relationship did so because personalization was lacking (Accenture 2017). Consumer expectations are changing, and people are increasingly looking for financial services that are tailored to their individual preferences. By understanding and adapting to individual needs, personalized banking services eliminate the frustration of generic offerings, hence contributing to a sense of uniqueness and satisfaction among customers.

Beyond satisfaction, personalization is a driving force behind heightened customer engagement. Today's consumers have access to a multitude of financial services and can therefore more easily diversify their relationships with these different service providers. But this inevitably leads to a weakening of commitment and loyalty in business relationships. This is why personalization is important. It enables banks to create stronger links and thus regain this commitment and loyalty (AIContentfy 2023). Indeed, by adopting personalized approaches, banks demonstrate that they understand their customers, that they have solutions tailored to these unique requirements, and that they can be seen as a trusted financial partner. As a result, customers feel understood and valued, and are more likely to remain loyal and recommend their bank to friends and family (AIContentfy 2023).

As personalization increases customer satisfaction and engagement, it encourages more frequent and meaningful interactions with customers, resulting in higher conversion rates. In fact, according to Accenture (2018), 91% of consumers are more likely to shop with brands that recognize their needs, remember them, and provide relevant offers and recommendations accordingly.

Group part

But personalization can also enable financial institutions to cut their marketing costs (Jim Marous 2018). By adopting more targeted approaches, and therefore more efficient marketing, banks will be able to reach the right people, with the right message, at the right time. According to McKinsey (2018), marketing based on people's real-time needs, interests, and behaviours can boost total sales by 15% to 20%, and digital sales even more. If campaigns resonate with customers, it leads to a stronger return on investment, and thus better financial results for the institution.

These last two points highlight the importance of personalization for bank revenues. BCG confirms this by estimating that for every \$100 billion in assets that a bank has, it can achieve as much a \$300 million in revenue growth by personalizing its customer interactions (Brodski et al. 2019).

8 Touchpoint 4: Day-to-day Operational Interactions

TP4 is the fourth and last stage that we tackle in the ActivoBank customer journey. It focuses on the daily interactions of users with the bank mobile application.

TP4 is important because it allows ActivoBank to improve the customer experience and engagement beyond the initial onboarding process (TP3). By analyzing the daily activities of users, the bank can identify their evolving interests and needs. This allows to provide personalized and relevant recommendations that are more likely to interest users, and thereby create a stronger relationship with them and keep them engaged.

8.1 Solution

Building on the success of TP3, we are creating an innovative solution for TP4 that aims to improve the customer engagement throughout the customer journey, beyond the initial onboarding process. Our solution focuses on analyzing users' daily activities to provide personalized recommendations and content. This approach enables ActivoBank to dynamically adapt its offerings to meet the evolving needs and preferences of its customers.

At the heart of our solution is the enhanced Activo4U page, powered by a sophisticated RS that leverages ML and AI to analyze users' transactions, searches, and other interactions with the application. Based on this analysis, the system generates recommendations for products, services, and content that are tailored to each user's unique interests and preferences.

To further enhance the relevance of the recommendations, we add a new feature a questionnaire within the RS, which users can complete to provide additional information about their evolving interests and preferences. This information is then used to further refine the recommendations, ensuring that they are always relevant and up-to-date with the latest changes in customers' needs and preferences.

Group part

Hence, the combination of machine learning and user feedback ensures that our product recommendations are always personalized and relevant, helping to foster customer long-term loyalty.

Recommendation System modelled for ActivoBank

Given that ActivoBank provides a wide range of services tailored to individual needs and interest areas, they must establish a method for making recommendations to their customers that considers their own needs and preferences. They provide a variety of products and services, but only a small percentage of their offerings receive attention by the current customers. Recommendation systems can assist in promoting less popular products and services to customers when they may need them. Nevertheless, it is difficult to select a single model that is suitable for the dataset of ActivoBank. Hence, combining several recommendation models can lead to improved performance.

As a result, this thesis presents a RS that we have meticulously designed for ActivoBank, integrating content-based and collaborative filtering, in addition to feature augmentation. Even though ActivoBank's main RS should be content filtering, collaborative filtering may still be useful to integrate into the system as it adds common behaviour patterns to the individual user preferences.

Hence, the suggested RS model for ActivoBank includes both a feature combination model and a feature augmentation model in order to easily integrate the aforementioned approaches. The main RS in the feature combination model is a content-based RS. This approach is used in conjunction with a collaborative RS that adds further insights by taking into account collaborative data obtained from the choices and preferences of similar users. In addition, another contributing (feature augmentation) RS is used to provide a rating or classification of the user profile when it is possible to identify changes in the user preferences. This rating or classification is then utilized by the main RS to yield the final anticipated

Group part

outcome. Without altering the main RS, the core system's performance is enhanced by employing this feature augmentation system.

This approach ensures a robust and adaptable recommendation model for ActivoBank, effectively combining the strengths of feature combination and feature augmentation models.

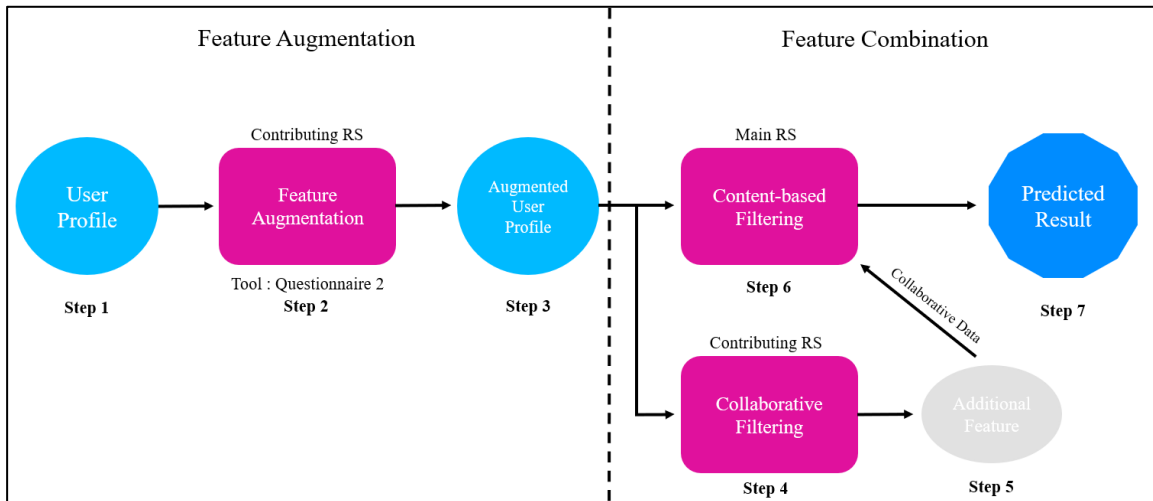


Figure 7: Recommendation Model specifically designed for ActivoBank.

When this model is broken down (Figure 26), the RS starts by creating a thorough user profile (Step 1), which includes demographic information, financial history, and user preferences based on the profile evaluation described in TP3, where people are categorized according to their interests. This forms the basis of the dataset used in later recommendation systems.

Subsequently, in Step 2, a contributing RS is incorporated to serve as a feature augmentation model alongside the primary RS. This strategy takes into account external factors such as user feedback, significant life events (e.g., marriage, home purchase, ...), and external economic indicators. The objective is to refine the user profile and cultivate a more nuanced understanding of each customer's financial situation. In this context, a decision tree, referred to

Group part

as questionnaire 2 in this thesis, becomes instrumental as a tool to assist the machine learning system in acquiring valuable insights into shifts in user interests and/or needs.

By running concurrently with the main RS, this contributing RS ensures a more robust and updated user profile (Step 3). The main RS then uses content-filtering, emphasizing user transactions and application usage to recommend relevant financial products and services. In parallel, a collaborative RS (Step 4) examines the choices and actions of people who share similar profiles. New features are derived from the collaborative data (Step 5), capturing collective insights from users with similar preferences. To create a hybrid recommendation process, these extra features from the collaborative data are incorporated back into the content-based RS (Step 6). The outcome (Step 7) is a predicted recommendation that provides the customer with highly personalized and relevant financial recommendations by combining the best features of both content-based and collaborative recommendation systems. This strategy creates a harmonious balance between individual user preferences and collective behaviour patterns by combining user interest segmentation, collaborative filtering, content filtering, and feature augmentation. Throughout the course of a customer's lifetime, the suggested system not only makes relevant and accurate recommendations, but it also dynamically adjusts to their evolving interests and financial behaviors.

Furthermore, as previously indicated, our survey findings indicate a preference for receiving product recommendations monthly, recommendations tied to specific events, and recommendations upon specific user requests (Q21, see Appendix 2). Consequently, our solution is designed to harmonize with these user preferences, allowing users to receive tailored recommendations when deemed pertinent by the RS in response to their activities. Additionally, users can easily access these recommendations on their Activo4U page at their convenience.

Catering to Diverse Customer Needs

To gain a better understanding of how the RS provides relevant and personalized recommendations, and therefore operate to foster deeper customer engagement, we have defined three different scenarios that could arise during the customer life cycle. These are distinguished mainly by the level of consumer activity and loyalty to the interest groups assigned in TP3. Figure 27 below serves as an overview of the core relations within the RS. Beginning with a user profile clearly established in TP3, the RS will operate within the three scenarios in the customer lifetime to continuously update the user's Activo4U page and make relevant recommendations.

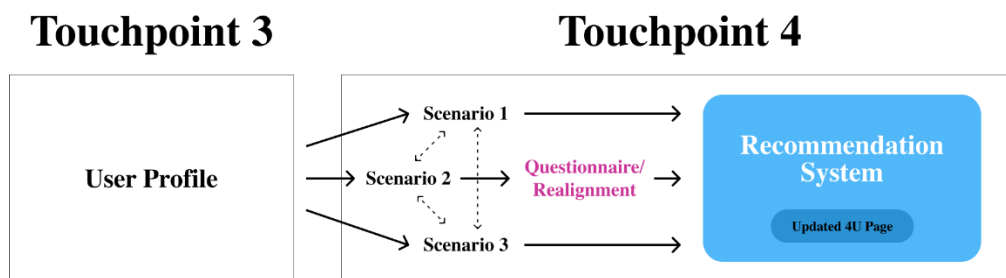


Figure 8: Illustration of Core Relations within System.

In each scenario described below, we explain how the RS will operate and update the Activo4U page to offer relevant and tailored product recommendations to the users.

Scenario 1: Sustained Interest and Engagement

Scenario 1, deemed the business-as-usual scenario, unfolds when there is minimal to no changes in consumer behavioral patterns within their interest groups. This scenario necessitates no updates to profiles, involves simple processing for the RS to operate effectively, and is the most straightforward to predict since there is no change.

Within this scenario, two distinct cases emerge. The first case is when a consumer declares their interest and remains steadfast within that group, fostering engagement and

Individual part

loyalty. This loyalty is advantageous for building a strong rapport with the bank, providing valuable data for further analysis of different interest groups, and potential new services for the platform. The optimal and logical outcome in this scenario is that, due to receiving highly tailored and timely recommendations aligned with their actions, customers are inclined to utilize a broader array of financial products offered by the bank.

In the second case, labeled Scenario 3 and further detailed later in this chapter, a user who refrains from engaging with any products within the bank initially receives basic recommendations and a rudimentary Activo4U page due to the absence of data on specific interests for personalized recommendations. As introduced in TP3, this aligns with the definition of The Essentialist. This presents a significant challenge, acknowledged by ActivoBank, and will require sustained efforts to address in the future.

Nevertheless, to preserve the perception of personalized recommendations, it is crucial for the RS to avoid suggesting products already in use by the customer or products that are in any way inferior to those currently utilized. The machine learning system ensures that the personalized touch is maintained, aligning with ActivoBank's commitment to delivering tailored and valuable recommendations to its customers.

Scenario 2 : Evolving Interests and Engagement

Scenario 2 concerns clients who continue to utilize ActivoBank's products and services, but who have experienced changes in their preferences and behavior. Preferences are inherently displayed by consumers and change throughout their lifetimes. For example, a traveler may decide to establish a family and make plans for long-term financial stability instead of pursuing a life of exploring. In the same way, an investor may cut back on their activity due to personal circumstances or changes in the financial markets. A variety of circumstances may cause a consumer's interests to shift, which may result in less or no engagement in a particular interest group.

Individual part

In order to avoid a decrease in customer engagement, the bank must act appropriately when such changes are noticed. We have developed an approach to deal with this, which entails using a customized questionnaire (Q2) to re-evaluate the customer's present preferences and dynamically modify product recommendations in line with those findings. It is important to remember that a behavioral shift is a broad challenge, with multiple scenarios that might call for different responses.

In the case of our solution, determining the optimal moment to launch Q2 and initiate inquiries into a consumer's changing activity and engagement levels within a category poses a challenge. Scenario 2 tackles this challenge by adopting a proactive approach that monitors customer activity patterns within their interest group, identifying indicators of shifting interests. The RS automatically recognizes a change in behavior and the onset of a decline in a customer's interest, adapting until the activity level falls below the established minimum threshold. A customer will continue to receive recommendations based on their interests if the minimum requirements are met, irrespective of differences in activity patterns, albeit at a lower frequency and quantity. For instance, a user who previously travelled frequently but has engaged less with this interest group will receive fewer recommendations and see fewer widgets on the 4U page related to travel.

However, due to a lack of information and data from ActivoBank regarding existing or potential activity thresholds, we cannot definitively define indicators of inactivity. These will depend on the bank's analytical capabilities and its definition of a definitive lack of interest. Nevertheless, we provide suggestions for key measures worth monitoring, as well as examples of activity thresholds for a traveler.

The first threshold we considered is transaction frequency, as a significant decrease could intuitively indicate a decline in engagement. However, it is important to note that a temporary decrease in transactions may not necessarily reflect a permanent loss of interest.

Individual part

Defining timeframes serves as a starting point for identifying potential inactivity, but overall customer engagement is crucial.

Two additional triggers for investigation are tool usage and product inquiries. Reduced use of financial tools specific to the customer's interest, along with a lack of inquiries about products or services related to their interest category, may suggest diminished interest.

Here are examples of thresholds that ActivoBank could use to detect a potential loss of interest for a traveler:

- No recent travel bookings or travel insurance purchases: If a traveler hasn't booked any trips or purchased travel insurance in over 6 months, it suggests a reduced engagement with travel-related products or services.
- No use of travel-related credit cards or prepaid cards: If a traveler hasn't used their credit card or prepaid international card in over 6 months, it indicates a decline in their travel activities.

By vigilantly monitoring these indicators, the recommendation system will adeptly identify customers exhibiting potential changes in their interests, enabling direct engagement to understand their current needs and preferences. If the algorithm detects a level of activity below the minimum threshold, the consumer will then receive a specific questionnaire (Q2) tailored to the group of interest, probing about their consumption habits and verifying their continued interest in the specific interest group.

Questionnaire 2

The subsequent step in our envisioned solution involves the RS's response when a decrease in customer engagement is detected (consumer's level of activity below the minimum threshold established). As previously indicated, a questionnaire (Q2) will be activated by the RS to collect data regarding the customer's changing preferences. This survey, which is organized as a decision tree, will be different for each interest group in order to obtain answers

Individual part

that truly reflect the needs and objectives of the customer. For example, if a customer's travel-related activity has decreased, Q2 will ask if they would like to continue exploring new places and if they are open to considering other travel-related products or services.

The questions of this Q2, representing the nodes of the decision tree, and the answers, forming the branches, will create a path leading the customer to various possible exits. Indeed, the responses to Q2 will be meticulously analyzed by the machine learning system to determine whether there have been significant changes in the consumer's interests.

- If the answers indicate that one of the initial interest groups is no longer relevant, the system will dynamically remove the category with decreasing interest from the user's profile and temporarily keep only the remaining interest categories, while waiting to analyze new activities showing a potential fit for other interest groups. This approach ensures the accuracy of the algorithm in updating user profiles and recommendations. These adjustments will be reflected on the Activo4U page, which will be updated in alignment with the changes in user profile.
- In cases where the system has noticed a drop in interest in the allocated category, but Q2 does not reveal a total disinterest, the RS adopts a more nuanced approach. It automatically adapts its level of activity to refix it above the minimum threshold, so that it can continue to offer products (and information) within this category, in an attempt to re-engage the customer and encourage him to resume his activities towards this category. At the same time, the RS will continue to analyze the customer's activities, and the opportunities for introducing products fitting other interest categories that correspond to their evolving interests. Nonetheless, if the customer does not act according to the interests shown in Q2, another questionnaire (Q2) should be avoided right after. This could undermine the idea of the questionnaire and reduce its perceived importance. The process should therefore remain

Individual part

in the background and wait for personal consumer buy-in to ensure that the questionnaires are not "just a marketing shot from ActivoBank".

Overall, monitoring, re-evaluating, and adjusting to customer preferences constitute a constant process for Scenario 2. Q2 is triggered whenever necessary by the RS, which continuously monitors consumer behavior and engagement, to ensure that personalized recommendations are relevant and effective. This dynamic strategy fosters a customer-centric approach that encourages engagement, loyalty, and long-term satisfaction by guaranteeing that the RS stays responsive to customer demands and changes in line with their preferences.

Nonetheless, it is crucial to consider insights gathered from both the survey and interviews conducted because they reveal that consumers do not want to be bothered by their bank on regular basis. This implies that when a consumer needs a product it is out of necessity and personal buy-in. Expanding on this idea, the consumer should be "suggested" to complete the questionnaire via a neutral-toned push notification and a red notification icon on the 4U tab. By encouraging the customer to complete the questionnaire, it stimulates their curiosity and gives them a feeling of importance and individualization.

Building upon the 4U page designed in TP3, a new widget is added to the top of the page to redirect users to the Q2. To inform the consumers of this new feature, a red notification is set on the "Activo4U" tab to create urgency and capture attention.

Guidelines for building Questionnaire 2

We see several advantages for ActivoBank in adopting a general framework for decision trees. Firstly, we believe it is beneficial to provide ActivoBank with a consistent structure to facilitate the creation of questionnaires across different categories of interest in the future. Secondly, we believe that a general framework promotes a standardized approach to assessing customer interest and preferences. By following a set of guidelines, we can effectively compare

Individual part

and contrast customer responses across different categories, gaining valuable insights into their overall engagement patterns towards the bank.

The first step of our framework is to choose the questions that will be asked. These questions should be designed to assess the customer's interest in the area concerned, as well as gathering information about their needs and preferences.

Once the questions have been chosen, the decision tree needs to be structured. This involves determining the flow of questions and the possible answers to each question. In our case, the introductory question acts as a gateway, directing the questionnaire down two distinct paths.

- For customers who express an ongoing interest, the tree branches out into more specific questions, delving deeper into their needs and preferences. This approach allows us to better understand their individual aspirations within that particular interest category.
- Conversely, for customers who indicate declining interest, the tree splits into a different set of questions, seeking to identify any minor persisting interest within that interest group. By understanding this, we can update the user profile without jumping to the conclusion of total disinterest too quickly.

This demonstrates our commitment to keeping customers engaged and ensuring that their changing preferences are constantly taken into account.

Finally, it is important to implement a mechanism to generate personalized recommendations based on the consumer's responses. The trees we have built therefore generate tailored suggestions for financial products that correspond to the consumer's specific needs and preferences. In addition, they incorporate a re-evaluation mechanism to ensure that customer profiles remain up to date. If a customer's interests have changed significantly, the interest group must be removed from their profile. This prevents customers from receiving irrelevant

Individual part

recommendations on their 'Activo4U' page, ensuring that their engagement remains focused on genuine areas of interest.

The overall framework that we have developed for ActivoBank, incorporating all the guidelines outlined in this section, is presented in Figure 28 below.

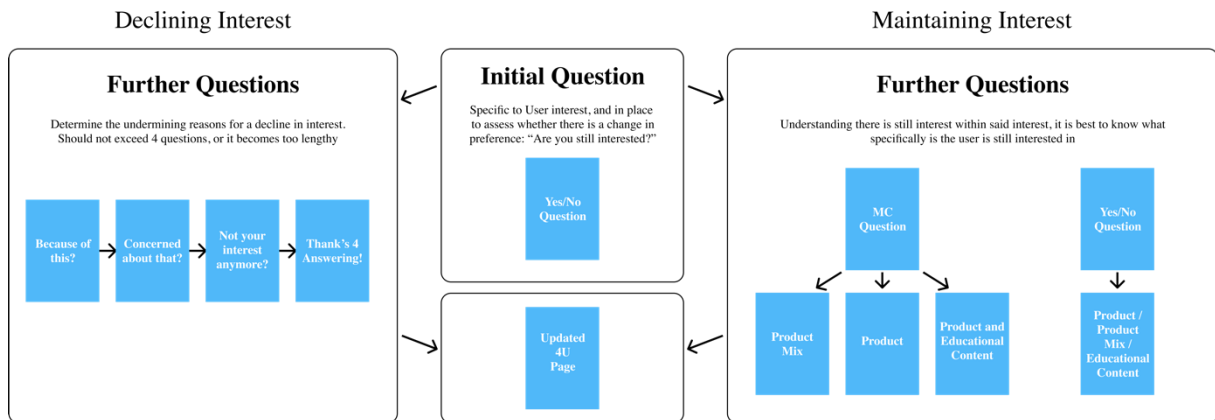


Figure 9: Guidelines For Creating a Questionnaire

In order to provide a concrete example of how our framework can be implemented for ActivoBank's interest groups, we are detailing in Figure 29 below how we constructed Q2 for the Traveler. Our proposed Q2 for all the other categories can be found in the final MVP chapter of this TP4.

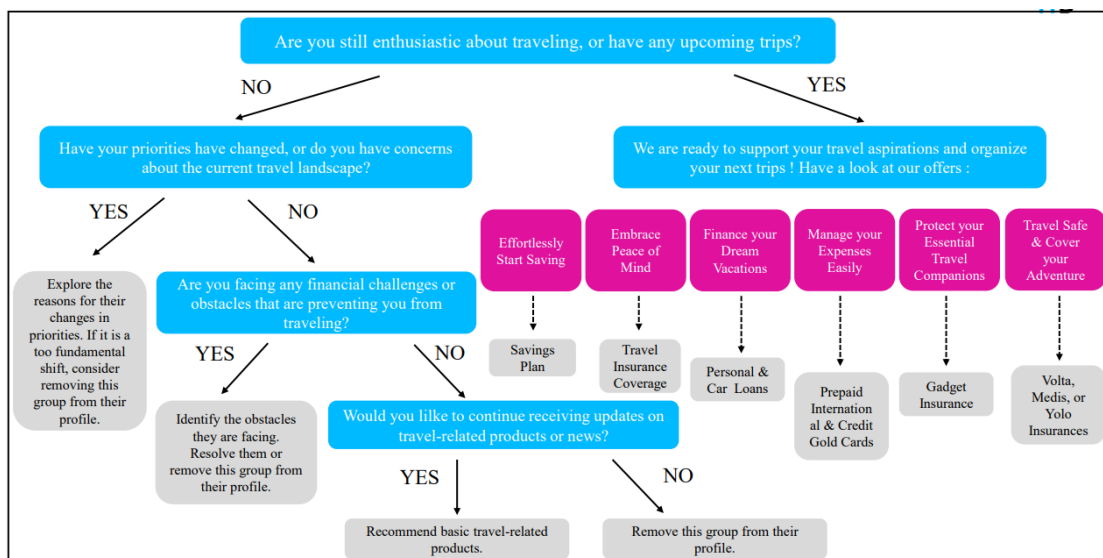


Figure 10: Example of Q2 for the "Traveler" Interest Group

Individual part

The decision tree developed for the Traveler category effectively responds to the challenge of identifying customers whose interest in a particular category is waning and adapting recommendations accordingly. The structure of the tree is consistent with the general approach described, using a series of questions to assess the traveler's enthusiasm for travel and uncover the underlying reasons for any decline in interest.

We started by establishing the initial question: "Are you still enthusiastic about travelling, whether you have upcoming trips or not?" This question is designed to quickly assess the traveler's general interest in travel and to guide the subsequent questions.

- For those who have expressed ongoing enthusiasm, the decision tree explores their specific travel needs and preferences. We recognize that travel interests can change over time, and have designed the decision tree to capture these nuances and provide tailored recommendations.
- For those who indicated a decline in enthusiasm for travel, the tree delved deeper into our research to understand the reasons for their changed priorities. We explored factors such as lifestyle changes, travel concerns and financial considerations. By understanding the underlying reasons for inactivity, we could provide more relevant and empathetic support.

We recognized that inactivity doesn't necessarily mean a permanent move away from travel; it could represent a temporary break or a change in travel preferences. By providing personalized recommendations, we could therefore potentially rekindle interest in travel and encourage future adventures.

The final version of the Q2 for the Traveler reflects a structured and personalized approach to assessing travel interests, identifying potential inactivity and providing recommendations tailored to the evolving needs and aspirations of consumers interested in travel.

Individual part

Scenario 3 : Minimalist Engagement

In the last scenario that has been established, consumers exhibit no particular interest in any of the interest categories, and are therefore not active in any of them, meaning that they don't request any specific financial product. They can enter this scenario in two different ways:

- They are either defined as "Essentialist" from the beginning, based on their answers to the questionnaire in TP 3. In this case, the consumer simply has no interest in the financial products offered by the bank.
- Or they arrive in this scenario after losing interest in the category or categories they were previously in. The consumer was indeed initially interested in one or more categories, but stopped being interested in them for some reason. In this case, the RS will automatically redirect this consumer to the "Essentialist" group. From then on, they will no longer have any interest group in their profile.

In both cases, the consumer's 4U page is adapted accordingly. It no longer recommends specific products or services, but only essential products for everyone, as well as general offers. The educational content on the page is also more general.

Unfortunately, essentialist consumers are of little or no profit to the bank and may even represent a cost. Therefore, it is important to try to engage (or re-engage) them in a more profitable category. To do this, the RS must remain attentive to the actions and requests of these consumers. It is also important to introduce them to the bank's various products and offers, while avoiding overwhelming them with information that is not relevant to them.

If they start showing interest in one or more categories, the system must allocate them to that or those categories. In this case, the consumer is back in scenario 1, where they have an interest in the bank's products, interact with the bank, consume products and services, are active, and are therefore profitable.

Individual part

Questionnaire 2 - MVP Development

Our final overall solution for TP4 builds up on the Activo4U page. As no real prototype for the AI-based recommendation system was feasible to make, we solely present a final MVP for Q2, which is part of the overall system. The recommendations made by the machine learning system are simply presented in the Recommendation Widgets presented in TP 3. Based on this questionnaire (Q2), we build our MVP and undertake the user testing of our solution.

8.2 User Testing

As a reminder the questionnaires consist of a combination of “Yes” or “No” questions and multiple-choice questions, subsequently leading to recommendation pages tailored to the user’s answers.

This section elaborates on the comprehensive user testing we have conducted to refine our questionnaires and improve the overall user experience. To effectively demonstrate the impact of these changes, we illustrate only the most significant points that have generated feedback and the corresponding improvements we have made.

Questionnaire 2 - Functionality Testing

Our first version of Q2 gives options to move forward in the questions, but no option to move backwards. This was recognized by participants as a flaw in the functionality of Q2, as they would sometimes prefer to assess different options before exiting the questionnaire. Therefore, an iteration was made, which includes a back button in each Q2 step. During the second testing round, participants were satisfied with this feature. This change can be seen on the second screen of Figure 30.

Moreover, the placement of navigation buttons has also been criticized for being difficult to access. Currently, the "Resume Calibration" and "Back to 4U Page" buttons are only visible after scrolling down the page. This was not an issue in previous testing rounds because the content was less extensive. However, as we add more products and features, the page will

Group part

automatically become more crowded. If users are required to scroll through all the content before being able to navigate the application, it will create a frustrating experience. Hence, to address this issue, we have relocated the navigation buttons to a more prominent position. This iteration makes it easier for users to find the buttons. This modification can be seen on the right-most screen in Figure 30 below.

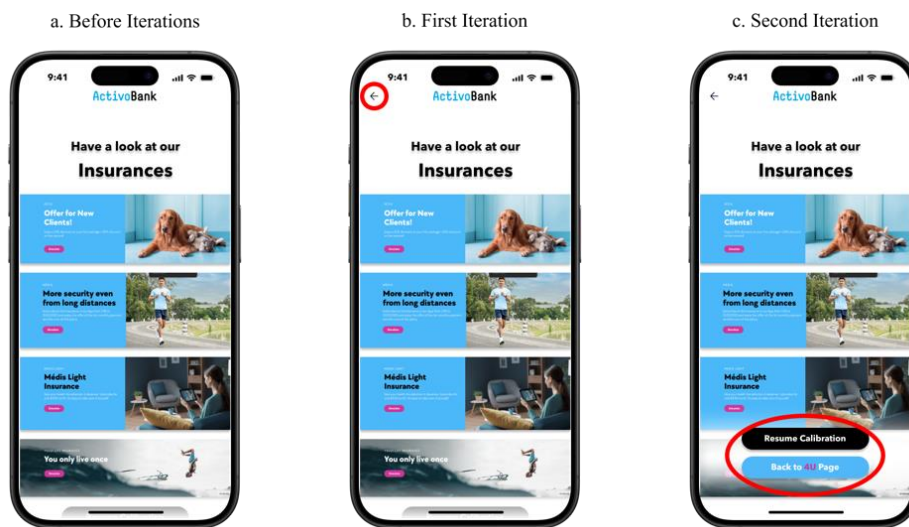


Figure 11: The Evolution of Functionality within Product Recommendation Pages

Additionally, the immediate recommendations after answering a question were criticized for being too generic and promotional. Some participants found the recommendations to be superficial and felt that the bank was trying to sell them a product. In response to this feedback, we decided to remove the immediate recommendations and replace them with a banner that informed users that their Activo4U page was being updated. We also included buttons to allow users to resume the calibration process or view the Activo4U page.

Nevertheless, other participants felt that this change made the application less engaging and left them with no concrete examples of products or services that might be relevant to them. To address this concern, we implemented a hybrid approach that combines the banner from the previous iteration with a blurred version of the recommendation page. This allows users to see a preview of the recommendations without feeling overwhelmed by promotional content. The

Group part

overall feedback on this iteration was positive and we believe that it strikes a balance between providing users with relevant information and avoiding being too salesy. The evolution of the way the recommendations are being presented is illustrated in Figure 31 below.

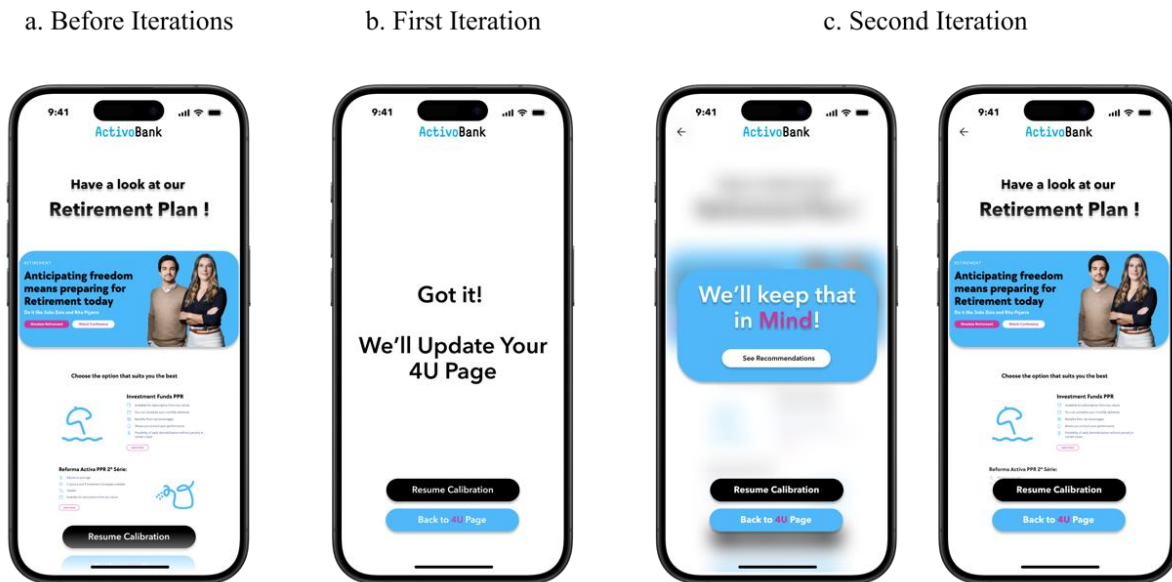


Figure 12: Evolution of Product Recommendation Pages

After completing the questionnaire, users are normally sent back to their Activo4U page, which is updated with relevant content based on their responses. However, some participants found that when they answered “No” to most of the questions (and therefore showed a loss of interest in the specific interest group), they were still directed to the same Activo4U page as if they had expressed interest. To solve this problem, we have added an “Essentialist” page to the feed, which is included in Figure 32 below. This page appears when a user answers “No” to an interest group and provides basic information. This change ensures that users receive personalized recommendations that may be relevant for them.

Group part

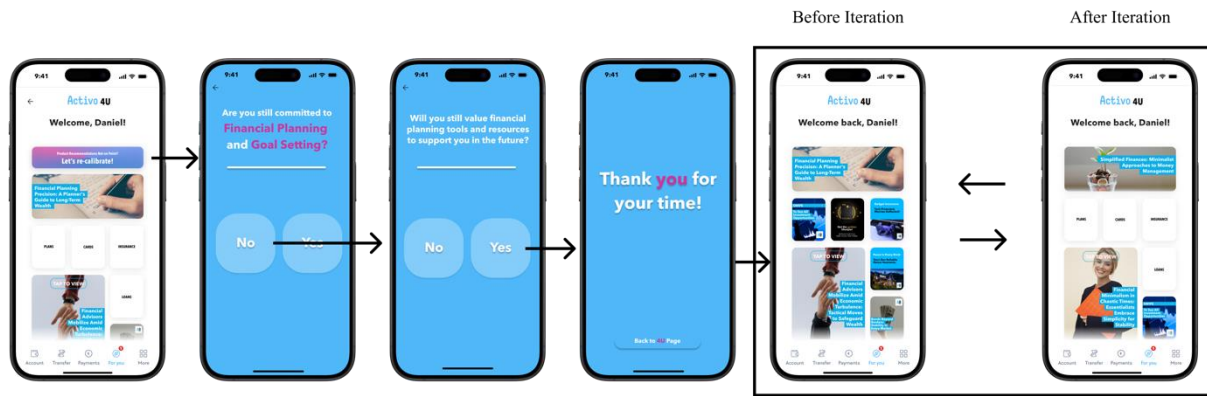


Figure 13: Change In the Flow of End Result

Moreover, participants had no complaints regarding the quantity of widgets made available on the updated Activo4U page, nor with the scrollability of the page.

Questionnaire 2 - Content Testing

In terms of the content of Q2, participants expressed that while some questions were broad, they generated inaccurate yet specific recommendations. Consequently, we refined our recommendations by tailoring them more closely to the specific details sought in preceding questions. An example of this iteration is illustrated in Figure 33 below, depicting the recommendation following a planner's interest in doing a big purchase. Feedback from participants highlighted that the option to immediately simulate a personal loan might be too specific, as customers may prefer a suggestion with a brief introduction to the product rather than diving into the intricacies of a personal loan.

Group part

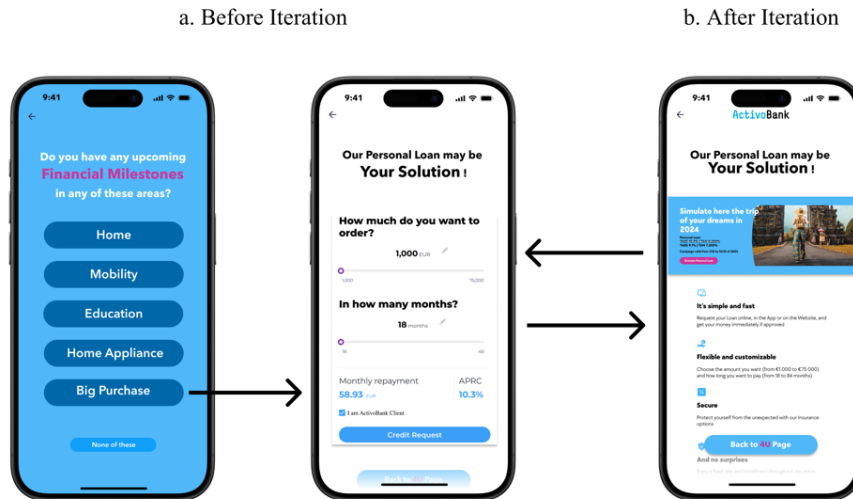


Figure 14: Example of an Iteration in the Content of a Recommendation

Furthermore, it was determined that the decision flow intended for travelers was different from the other decision flows (planner, investor, innovator), indicating a need for attention to ensure a consistent user experience. The first iteration therefore aligned the decision flow of the traveler with the others.

Additionally, a lack of specificity in the first testing phase indicated that the questioning method needed to be improved to increase the value of the feedback. In the planner decision tree, for example, a multiple-choice question entitled "Do you have any upcoming financial milestones?" only accepted a "Yes" or "No" answer instead of selecting a category. We rephrased this question into "Do you have any upcoming financial milestone in any of these areas?", which participants found to be clearer (Figure 34).

Group part

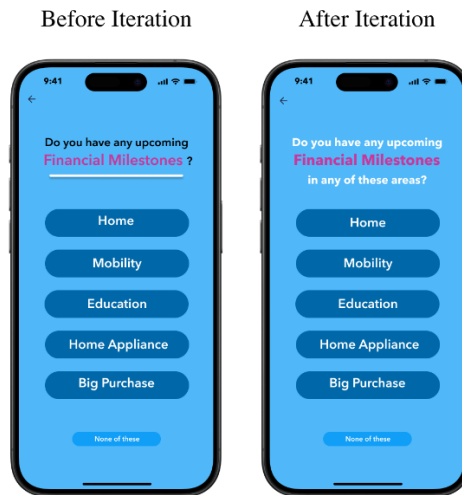


Figure 15: Example of a Clarification of a Question

More generally, during the first testing phase, general questions, aimed at understanding customer's reduced activity within a specific interest group, were criticized for not guiding customers toward specific solutions regarding their loss of interest. According to the feedback we received from participants, these general questions were either pointless or failed to generate any recommendations. As shown on the left screens in Figure 35 below, the general questions did not lead to other questions investigating the reasons for their loss in interest. Since we could not always recommend a specific solution to the customer depending on their reasons, we decided to eliminate these multiple general questions. Hence, the iteration consisted of replacing the general questions to one single question that investigated whether the customer still values the products within the particular interest group. However, an exception was made for the innovator and investor Q2s, in which we still think it brings valuable information to ActivoBank to ask the reasons for their loss in activity. The preceding general questions and the iterated version that resulted in direct changes to the Activo4U page are depicted in Figure 35 below. Additionally, Appendix 8 includes figures representing the evolution of all iterations made within each Q2.

Group part

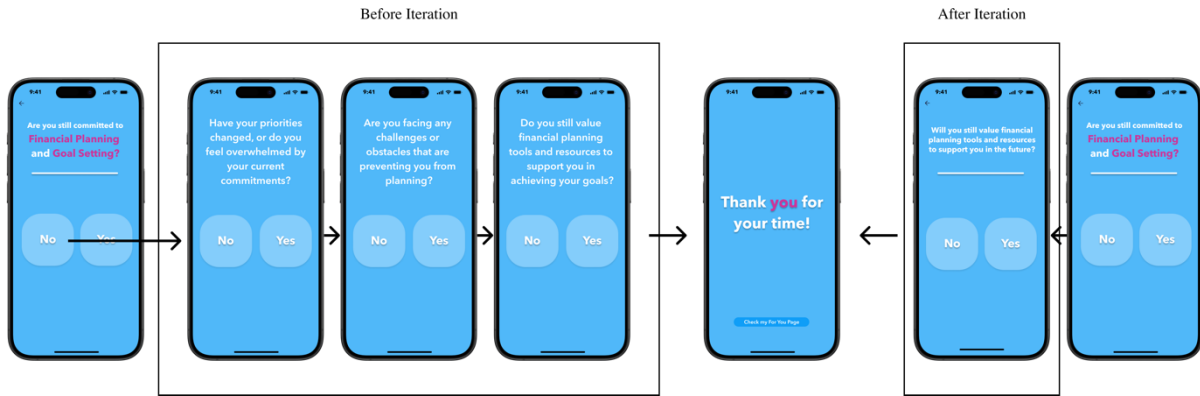


Figure 16: Iteration from Multiple General Questions to One Multiple-Choice Question

Questionnaire 2 - Design Testing

Although our primary focus is not on the design of the application or the UX, it is also important to take feedback on design aspects into account to improve the usability and aesthetic appeal of the final MVP.

Hence, firstly, we made sure that the design is consistent with ActivoBank's brand identity. This helps creating a seamless and recognizable user experience. However, we are aware that the participants of our testing round are not familiar with ActivoBank, meaning that the consistency throughout the user experience may not be reflected in the feedback we received. Nevertheless, we did our best to design the final MVP in a way which is consistent with the general design and colours of ActivoBank's application. In addition, participants observed during the overall testing phase multiple variations in font sizes, colours, and weights across different screens. This kind of inconsistency disrupts the visual flow and creates a disjointed user experience, which led us to putting more efforts into creating a consistent and unified font throughout the application.

Moreover, in the first round of testing, participants noted inconsistencies in the naming of the main page, sometimes seeing "For You Page" and other times "4U Page." To avoid confusion, we adopted a single, consistent name throughout the application, which is "Activo4U".

Group part

Another recurring feedback was the visibility of the "Back to 4U page" button on product recommendation screens, which was sometimes difficult to locate. We therefore made it more prominent and easier for users to find (Figure 36).

During the second iteration of testing, participants suggested that the "We'll Update Your 4U Page" screen could be redesigned to enhance its visual appeal. Instead of the current full-screen presentation, a pop-up message is now used to deliver the update information more effectively (Figure 36).

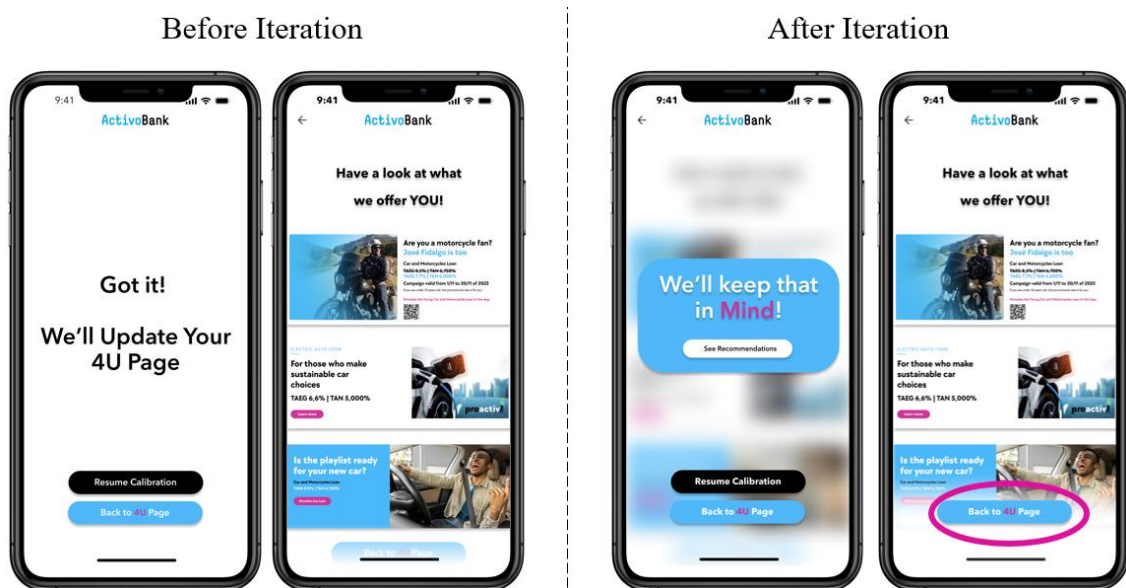


Figure 17: Improvements of the Design Aspects.

8.3 Final MVP – Questionnaire 2

As the final Q2 of each interest group consists of multiple screens that allow for multiple paths to be taken depending on the answers provided by the user, it would be impractical to display all of them in this report. However, Figure 37 shows how the 4U pages of each category look like when the Q2 appears.

Group part

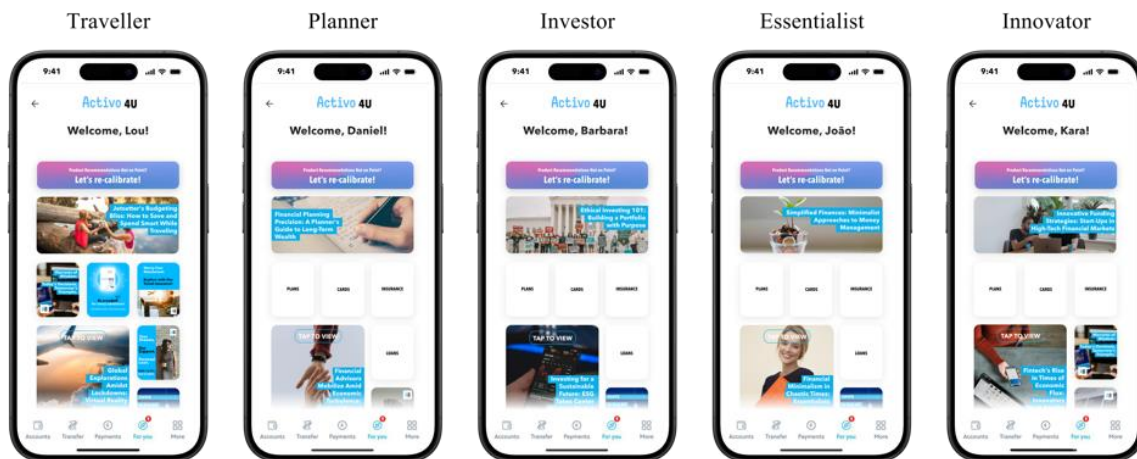


Figure 18: Access to Q2 on the Activo4U Page

Finally, the QR codes below grant access to the various screens (decision flow) of our Q2 (Figure 38) for each interest group. The overview of the different Q2s can also be found in Appendix 8.

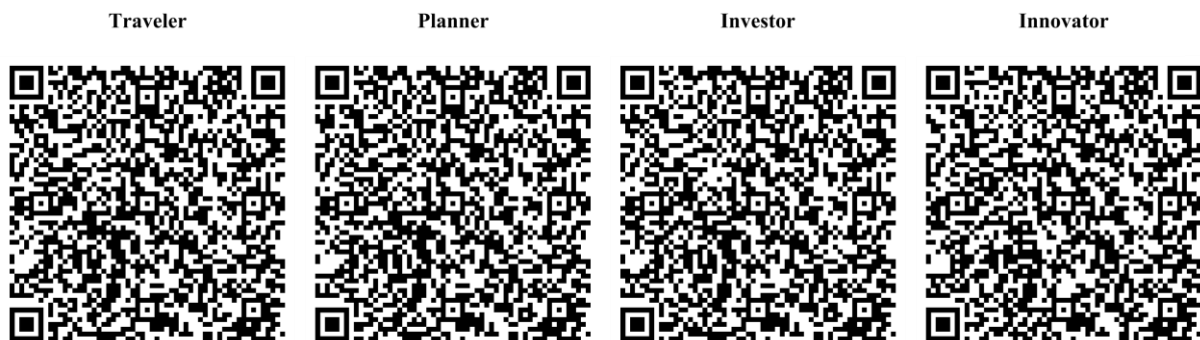


Figure 19: Q2 for each Interest Group

9 Outlook and Project Implementation

The previous chapters outlined the proposed solutions for ActivoBank, including their development and testing. According to Dvir et al. (2003), the success of a project correlates positively with the investment in project planning and management. Therefore, to provide a complete picture, this chapter focuses on the actual implementation of the project and offers a future outlook for the bank. We explore practical steps for translating the proposed solutions into action, detailing concrete measures required in the short, medium, and long term. Additionally, we identify key performance indicators (KPIs) essential for monitoring the project's progress and impact, ensuring ActivoBank's strategic objectives are achieved through these initiatives.

9.1 Concrete Measures

To ensure the successful implementation of the proposed solutions, we recommend specific measures for ActivoBank, categorized into short, medium, and long-term actions. The short-term measures should be initiated within the first three months following the presentation of the solutions. The medium-term measures are planned for implementation from the fourth to the twelfth month after proposing the solutions. Lastly, long-term measures are those that ActivoBank should consider implementing one year after the initial proposal or later. The Figure below shows our suggested project plan for ActivoBank.

ActivoBank Project Plan																	
Measure Category	Task Name	02-24	03-24	04-24	05-24	06-24	07-24	08-24	09-24	10-24	11-24	12-24	01-25	02-25	03-25	04-25	td
Short Term Measures	Doability check	█															
	Budget Planning of the Project		█	█													
	Assignment of Tasks		█	█	█												
	In-house vs. External Resource Decision Depending on outcome																
	Design of Project Plan Including Timeline																
Medium Term Measures	App Development and Integration				█	█	█	█	█	█	█	█	█				
	Comprehensive Testing						█	█	█	█	█	█					
	Go Live										█	█	█				
	Incentivizing																
Long Term Measures	Monitoring Key Performance Indicators														█	█	█
	Continuous App Development														█	█	█
	Expanding the Project Scope Beyond the App														█	█	█

Figure 20: ActivoBank Project Plan

Short-term Measures

Do-ability check: So far, our solutions for ActivoBank have been conceptual, based on creative ideas and various testing methods. While these proposals aim to address the bank's challenges through enhancements to the mobile application, they are not yet constrained by specific operational limits. Therefore, it is crucial for ActivoBank to conduct a thorough do-ability check. This analysis should assess whether the proposed application enhancements will gain acceptance among key decision-makers and if they are feasible with the bank's current resources. This includes evaluating technological capabilities, personnel availability, and budget constraints.

Budget Planning of the Project: Following an initial do-ability check, we recommend establishing a detailed budget, taking into account the specific needs and complexities of the proposed enhancements to the ActivoBank application. Given that our solutions build upon the existing application infrastructure, we anticipate that the costs associated with front-end development will be relatively moderate. However, for the implementation of solutions related to TP3 & TP4, which involve more complex concepts, we expect higher development and personnel costs. These costs will largely depend on ActivoBank's current in-house competencies. Following Roberts (2011), budget planning is crucial for managing costs and allocating resources efficiently in projects. Therefore, ActivoBank will need to determine whether existing resources can accommodate the project's demands or if additional expenditure is necessary for external solutions and services or new hires.

Assignment of Tasks: After conducting the initial feasibility analysis and budget planning, we recommend that ActivoBank proceeds with the clear assignment of tasks. This ensures both a thorough understanding of the project's requirements, and accountability for its execution. Key departments within ActivoBank that will play a significant role include 'Application Development-related' departments and 'Customer Relations'. Additionally, the

Group part

Finance Department will be crucial for overseeing the project's budget. Depending on ActivoBank's internal structure and distribution of competencies, involvement from other departments may also be necessary.

In-house vs. External Resource Decision Depending on outcome: As ActivoBank progresses with task assignments, a key decision point will be determining whether the bank's internal capacities are sufficient for realizing the project, or if there is a need to bring in external expertise. From our perspective, giving a definitive recommendation in this regard is challenging. However, considering that the application and its infrastructure already exist, it seems plausible that ActivoBank could undertake the project primarily using its internal resources. Nonetheless, engaging consulting services could be beneficial for driving and supervising the successful implementation of the project, providing an external perspective and specialized expertise where necessary.

Design of Project Plan Including Timeline: As ActivoBank initiates the short-term measures, it's essential to simultaneously develop a comprehensive project plan. This plan should outline the project's full scope, key milestones, targets, and a detailed timeline, guiding the project's progression and ensuring alignment with its objectives. Add source why project plans are important.

Medium Term Measures

In the medium term, ActivoBank faces a series of crucial steps in transforming and enhancing its mobile application. This phase is focused on the actual development, integration, and further testing of the solutions conceptualized and designed by us.

Application Development and Integration: In terms of backend development, the simplified Excel calculation model presented in TP3, and the assumption of having an AI mentioned in TP4 need to be converted into robust software solutions. This involves building deep tech, scalable, and secure backend systems. Regarding front-end development, the Figma

Group part

designs need to be translated into a live application interface. This step is crucial to match the envisioned application functionality and user experience. Considering the integration with the existing application, ActivoBank needs to carefully merge the new features with the current application infrastructure. This step is critical to maintain the integrity and performance of the existing application while introducing new functionalities.

Comprehensive Testing: Our final proposed solutions are supported by the outcomes of thorough testing. However, we recommend ActivoBank to conduct tests of the final solutions with selected users who are active users of the ActivoBank application. Additionally, it's crucial to test these solutions within the environment of the existing ActivoBank mobile application to ensure compatibility and effectiveness.

Go Live: Once the proposed solutions are thoroughly developed, integrated, and tested, we advise ActivoBank to proceed with the go-live implementation in the application. The rollout should be carefully executed to ensure seamless integration and minimal disruption for users. It's important to note that the solutions for TP3 and TP4 are closely interconnected and should be implemented simultaneously. While the enhanced login page for TP1 could technically be launched independently, we recommend deploying all proposed solutions concurrently for maximum impact and coherence in the user experience.

Incentivizing: We recommend ActivoBank introduces incentives for users to participate in the proposed questionnaire within the application. Our findings show that 43% of users are motivated by monetary rewards, and 32% are encouraged by gaining access to exclusive banking services. Implementing such incentives will not only enhance user engagement but also gather valuable data, enabling ActivoBank to make more targeted product recommendations.

Long Term Measures

For sustained growth and competitiveness, ActivoBank's long-term measures should focus on monitoring KPIs, continuous application development, and expanding the project scope beyond the application.

Monitoring Key Performance Indicators (KPIs): To validate the long-term effectiveness of our solutions and to gauge whether users increasingly consider ActivoBank as their key financial partner for substantial decisions, measurable indicators are essential. ActivoBank should consistently monitor relevant KPIs for this purpose. The specific KPIs that will aid in this assessment are outlined further in this chapter.

Continuous Application Development: Our project delivers comprehensive solutions for ActivoBank. Nonetheless, we recommend that ActivoBank regularly updates and enhances the application, aligning with the latest technological advancements and evolving customer preferences over the long term. For further ideas on additional beneficial solutions for ActivoBank, please refer to Chapter 11.

Expanding the Project Scope Beyond the Application: As previously highlighted, the initial scope of our project is focused on enhancing ActivoBank's existing mobile application. However, to effectively encourage more customers to consider ActivoBank as their primary financial partner for significant decisions, we believe it's crucial to explore potential solutions that extend beyond just the enhancement of their mobile application.

9.2 Key Performance Indicators

As highlighted in the section on concrete measures, we strongly advise ActivoBank to closely monitor and, where necessary, define relevant KPIs. This is vital for assessing the actual impact of our proposed solutions and determining the realization of objectives. Parmenter (2015) discusses the importance of selecting suitable KPIs and their crucial importance for

Group part

measuring project success. We recommend that ActivoBank differentiates between KPIs related to the application's performance and those tied to the overall business performance.

Application Performance KPIs

In evaluating the performance of ActivoBank's mobile application, it's crucial to approach typical application performance KPIs with a perspective distinct from that used for e.g. entertainment apps. Users interact with banking apps based on financial necessity and existing account relationships, leading to more consistent usage patterns. For example, when assessing KPIs such as session length or user engagement rates, ActivoBank should not only consider user interest but also the application's efficiency and ease of use. Regarding specific KPIs for ActivoBank's mobile application, we suggest focusing on the those mentioned below. For each of the KPIs mentioned below, a positive development would underline the effectiveness of our proposed solutions. Kurzweg (2023) provides a holistic overview of KPIs relevant for mobile applications.

Conversion Rate from Login Page: tracks how many users who download the application proceed to open a bank account (Kurzweg 2023). The goal of the enhanced login page is to improve this conversion rate by more effectively engaging users and encouraging account registration.

User Time Spent in Application: measures the average time users spend within the application (Kurzweg 2023). We anticipate an increase in this metric following the implementation of our solutions, signaling greater user engagement. This is particularly relevant with the introduction of the Activo4U and the recommendation system, which are designed to enhance user interaction with the application and ultimately with ActivoBank's products.

Engagement with Recommendation System: Given the individuality of the proposed solution for TP4, a specific KPI might not be commonly known. However, due to its

Group part

importance, we advise ActivoBank to monitor user interactions with the recommendation system and the associated questionnaire within the application. A high level of engagement is expected to result in increased interest in the recommended products.

Overall Project Performance KPIs

CLV: This is a crucial KPI for ActivoBank as it focuses on ActivoBank's fundamental challenge. It measures the total value contributed by a customer to ActivoBank over the entirety of their relationship (Haenlein et al. 2007). A rise in CLV would signify that customers are engaging more deeply with ActivoBank's services for important financial decisions, extending beyond routine daily financial activities.

Evaluating Revenue from Key Financial Products: To gauge the success of our proposed solutions, it's essential for ActivoBank to analyze revenue from significant financial products like loans and investment services. These categories likely reflect ActivoBank's role as a primary financial institution. An increase in these key performance indicators would suggest that our solutions are leading customers to increasingly rely on ActivoBank for their major financial needs.

To determine which product categories best represent primary banking relationships, ActivoBank should conduct additional internal financial analyses. It's important to contextualize these KPIs, considering external factors such as financial market developments, which might also influence the performance of certain financial product categories.

10 Further Solution Ideas

Since the scope of our project is limited to the application, our ideas for ActivoBank solely comprise in-application solutions. Nevertheless, there is more ActivoBank could attempt to improve user engagement and loyalty outside of their mobile application. Therefore, in this section, we present additional ideas that we do not cover in our solution but that may be incorporated into ActivoBank's overall strategy to persuade clients to use ActivoBank as their

Group part

primary bank. Here, we make a distinction between in-application suggestions, which are small-scale suggestions meant to be implemented into ActivoBank's application, and large-scale ideas, which comprise more significant strategic recommendations.

10.1 In-Application Suggestions

Simplified Onboarding Process (as per TP2): As highlighted throughout this thesis, ActivoBank explicitly requested that our primary focus not be on altering their bureaucratic onboarding process. Nevertheless, we still addressed questions related to the bureaucratic onboarding process in our survey. Despite it not being the central focus, we identified potential changes that ActivoBank could implement to improve this touchpoint. Hence, we suggest that they enhance their onboarding process by focusing on a streamlined, engaging, and efficient experience. This involves including only legally required steps and minimizing the number of documents required, a major pain point identified in our customer survey (Q12-2, Appendix 2). We recommend that they engage users through a user-friendly interface with clear, simple instructions, and prioritize quick processing times (Q13, Appendix 2). Additionally, we advise providing users with the option to receive live help during the process.

Customizable Application Experience: By giving customers the ability to design and customize their application experience, ActivoBank can empower users. Adding a feature that allows users to add widgets to customize their dashboard would make the in-application experience more individualized and user-centric.

Enhanced Financial Tools: To enhance user engagement on their application, ActivoBank could implement additional financial tools. They could implement an in-application feature enabling users to manage and store digital receipts within the application, as well as tools to generate detailed expense reports that enable users to categorize and track their expenses. It would facilitate financial planning and offer valuable insights into spending habits. Other ideas include adding a transaction calendar, and a feature that lets users create and

Group part

track budgeting goals. These promote effective financial management and serve as a helpful reminder to users of their financial obligations.

Chatbot and Live Chat Integration: Customer support can be greatly improved by integrating a chatbot and/or live chat with a real personal assistant within the application (Rane, Achari & Choudhary 2023). Nearly half of the respondents to our study said they prefer to communicate with their bank online, as shown in Figure 40 below.

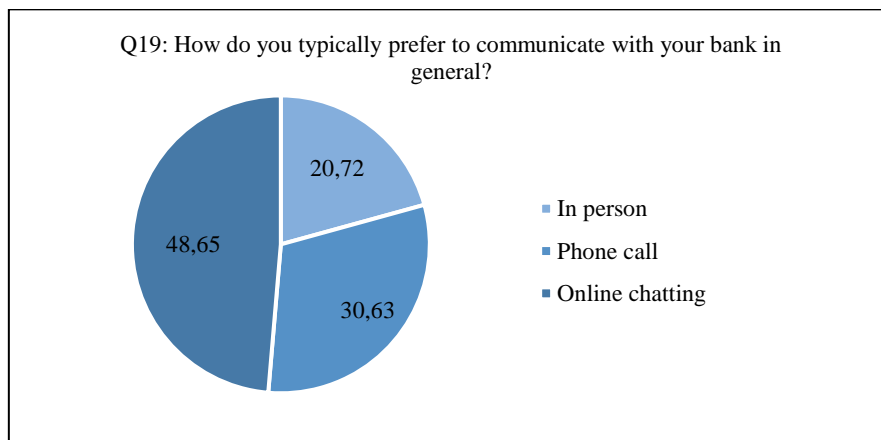


Figure 21: Pie Chart representing the Communication Preferences with the Bank

Therefore, by giving users immediate and tailored support, a live chat function can increase client loyalty and in-application engagement by giving them the impression that they interact with the same financial advisor throughout their whole customer lifecycle.

Integration with 3rd -Party Finance Apps: ActivoBank can offer users the ability to integrate their digital banking application with popular financial management apps. This integration can provide a comprehensive financial overview by coordinating with platforms like Expensify, PayPal, Wise, or Stash, as these platforms respectively specialize in expense management, online payments, international money transfer, and investment in fractional shares and ETFs. This strategy guarantees a consistent and easy financial experience for ActivoBank customers.

10.2 Large-Scope Suggestions

Tailored Financial Products: Being a digital bank, ActivoBank could create customized goods and services based on the preferences and profiles of each individual customer. Tailored savings programs, investment portfolios, and loans that meet the specific requirements of every client are a few examples for this idea. By seamlessly integrating this extension of ActivoBank's offerings with the suggested recommendation system, the bank can significantly enhance its competitive advantage. This strategy not only demonstrates that ActivoBank is dedicated to being responsive to each individual customer's expectations, but it also strengthens the relationship by giving them a sense of value and understanding.

Inclusive Banking for Diverse Audiences: ActivoBank should ensure that its platform is inclusive and caters to diverse customer segments. It is imperative that ActivoBank considers the distinct requirements of various consumer segments and provides services that are appealing to a wide range of users. ActivoBank can strategically concentrate on extending their marketing efforts specifically to expats and international students in Portugal, given the increasingly global nature of Portuguese society. New residents often seek to open a bank account in Portugal, presenting ActivoBank with the opportunity to be their first and preferred choice for financial services. By tailoring offerings and support processes to address the specific requirements of expats and international students, for example, by simplifying cross-border transactions or offering multilingual support, ActivoBank can position itself as the go-to bank for international people.

Cashback Incentives for Digital Bank Transactions: ActivoBank can introduce a cashback incentive system for users who actively utilize specific features within the digital banking platform. Offering rewards, for example, for reaching specific objectives in savings, bill payments, or digital transaction numbers, can encourage consistent platform usage (Vieira,

Group part

Afonso, Agnihotri, Severo De Almeida, et al. 2022) and influence users to pick ActivoBank for their primary bank account.

Reward Program with Strategic Partnerships: ActivoBank can establish partnerships with a diverse range of businesses, creating a network of attractive benefits for its customers. Grocery stores, retail stores, and service-related businesses like ride-sharing services (such as Uber or Bolt), accommodation providers (such as Airbnb or Booking.com), airlines (such as TAP), and tour guides (such as GetYourGuide) are examples of potential strategic partners. Users of ActivoBank can save on everyday expenses by taking advantage of special discounts or rewards when making purchases at partner stores. Offering discounted rides, special accommodation rates, or exclusive travel packages for ActivoBank customers can create added value and enhance the overall customer experience. Partnerships with popular brands in Portugal create a win-win situation for ActivoBank, as it enhances their customers' satisfaction and loyalty while significantly boosting customer engagement. To take full advantage of these deals, customers are more likely to use ActivoBank as their primary bank. These long-term partnerships also help ActivoBank establish itself as a lifestyle partner for its customers by expanding its reach beyond traditional banking.

Social and Environmental Responsibility Initiatives: ActivoBank can strategically improve customer engagement through the implementation of activities related to social and environmental responsibility. In addition to having a good social impact and attracting clients who value ethical and ecologically responsible banking, ActivoBank also demonstrates its commitment to sustainable practices by sponsoring social initiatives. Examples of these initiatives include community engagement projects, charitable donations, and green banking programs. ActivoBank can stand out in the market and attract a rising segment of environmentally sensitive customers by incorporating social and environmental responsibility into its fundamental values. In addition to improving customer engagement, this calculated step

Group part

establishes ActivoBank as a socially conscious and progressive bank, which incentivizes customers to select it as their primary bank in light of the benefits it offers and its good effects on the environment and society (Lagasio, Valentina, Cucari and Åberg 2021).

11 Limitations

This chapter identifies and discusses the limitations of our work project. These limitations are mainly due to factors such as time, resource, and expertise constraints.

First, the depth of the development of the solution itself is limited due to time and data access constraints. The conception and development of our different solutions are constrained in scope and accuracy. Indeed, ActivoBank provided us with a limited dataset, which does not include all the data needed to develop an optimal product. For example, we did not have access to their current application because it requires opening an account in their bank. We were also denied access to the explanation of their products, the profitability of those products, the types of customer data that ActivoBank can analyze for commercial purposes, or their current recommendation system.

Secondly, we were tasked with developing a ready-to-implement solution, all within three months. This limited the development and testing of our creation.

As our thesis progressed and our product developed, we faced additional limitations.

1. Our survey is based on a relatively small sample of 222 individuals. Even if we are pleased to be able to reach so many participants in such a short time, we acknowledge that is insufficient to draw definitive conclusions and generalize the results to ActivoBank's larger customer base. To gain a more complete understanding of customers' needs, preferences and behaviors, a survey with a larger number of participants should therefore be conducted. Participants should also be customers of the bank, or at least people who have already heard of the bank. This data can then be used to develop a more personalized and efficient product for all different touchpoints.

Group part

2. The classification of customer interests in TP3 is based on our own assumptions and on the products that we found on the bank's website, rather than on real customer data or feedback. These assumptions could lead to recommendations that are not perfectly tailored to the needs and preferences of the existing customers. A more effective approach would be to allow the bank to improve the relevance of the interest groups, for example by creating more specific interest groups or removing groups that it considers inappropriate.
3. The suggestions for integrating AI into the recommendation system in TP4 are also limited by the scope of our expertise in this area. Obviously, the development and integration of more sophisticated algorithms and models would allow to provide even more personalized recommendations tailored to the unique needs and preferences of each client. However, we still believe that the proposed recommendation system has the potential to be a valuable tool for ActivoBank to improve customer satisfaction and engagement.

12 Conclusion

In conclusion, our consultancy project addresses ActivoBank's challenges by implementing strategic solutions across four identified key touchpoints in its digital banking framework, more precisely its mobile application. The primary challenge centered around customers perceiving ActivoBank as a secondary financial institution and encountering difficulties in promoting key financial products. The research objectives focused on understanding customer hesitancy and developing an MVP solution, while the development-related objectives aimed to enhance customer engagement and lifetime value.

Factors influencing customer hesitancy in choosing digital banks like ActivoBank for substantial financial services root mostly in a strong attachment to their prior banks as well as concerns about the security of digital transactions and the perception of digital banks as a provider of supporting banking functions. We identified the need for building trust by addressing security concerns and fostering loyalty within the digital banking landscape is crucial for overcoming these hesitancies and fostering increased customer engagement.

At the Pre-Onboarding Interaction (TP1), we strategically introduced a landing page to provide essential information to potential customers before initiating the account creation process. This served as an information gateway and aims to shape positive customer perceptions and provide a more informed onboarding experience. While the Bureaucratic Onboarding Procedure (TP2) was not directly addressed -in line with ActivoBank's preference-, we voiced an emphasis on minimizing disruptions during customer onboarding. The Post-Onboarding Interaction (TP3) involved the implementation of a benefit-based segmentation with the help of an attitudinal questionnaire. This approach categorizes customers into five interest groups and creates personalized "Activo4U" pages with the goal of enhancing personalization efforts and creating a closer relationship between the customer and ActivoBank. Withing the Day-to-Day Operational Interactions (TP4) we implemented an AI-driven recommendation system,

Group part

integrating propensity tagging and utilizing content-filtering as well as collaborative filtering. This system aims to offer real-time, tailored recommendations through the "Activo4U" page, addressing changes in customer preferences and behavior through the creation of solutions for multiple user scenarios.

Within these touchpoints, we tested our solutions with real user feedback, closing the loop effectively to refine and optimize interventions. Additionally, we proposed further in-application suggestions and large-scope ideas for ActivoBank's overall strategy, encompassing features such as customizable application experiences, enhanced financial tools, chatbot integration, and partnerships with third-party finance apps. These ideas provide a roadmap for ActivoBank to further enhance user engagement and loyalty, both within the application and beyond its digital platform.

As the project concludes, we recognize ActivoBank's challenges as interconnected elements within the broader digital banking landscape. The proposed solutions represent a pathway toward increased customer engagement and strategic growth. However, they necessitate continuous efforts for implementation and KPI tracking. ActivoBank's prior commitment to innovation and customer-centricity positions it well for this transformative journey. As ActivoBank moves forward with the solutions, we view the potential positive impact of these recommendations on its standing in the digital banking sector optimistically.

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1. Appendix 1 – Survey Questionnaire

Dear Participant,

Thank you for participating in this study.

We are a team of 5 Master's students at Nova School of Business & Economics. This study is conducted in the context of our Master's Thesis.

Completing the survey will take approximately 9 minutes. The purpose of this study is to comprehensively investigate consumer perspectives and behaviors in the context of digital banking to inform and enhance user experiences and banking services.

Please try to answer the questions carefully and honestly, since untruthful reporting might distort the results.

The data collected through this survey will be strictly used for our research. Moreover, all of the answers you provide will be treated confidentially and coded in order to protect your anonymity.

Demographic Questions

Q1: What is your age?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 or older

Q2: What is your gender?

- Male
- Female
- Non-binary/third gender
- Prefer not to say

Q3: What is your highest level of education?

- High school or less
- Some college or vocational training
- Bachelor's degree
- Master's degree
- Doctoral degree
- Prefer not to say

Q4: What is your employment status?

- Employed full-time
- Employed part-time
- Self-employed
- Unemployed

Group part

- Student
- Retired
- Other

Q5: What is your annual household income?

- Under \$25,000
 - \$25,000 - \$49,999
 - \$50,000 - \$74,999
 - \$75,000 - \$99,999
 - \$100,000 - \$149,999
 - \$150,000 or more
 - Prefer not to say
-

Technical questions

Q6: What are the key factors that influence your decision to choose a bank? (*Please select all that apply.*)

- convenience and accessibility of branch
- user friendly online/mobile experience
- competitive interest rates and fees
- trustworthiness and reputation of the bank
- recommendations from friends and family
- range of available financial products and services
- customer service quality and responsiveness

Q7: Which of the following factors would influence your decision to recommend your bank to others? (*Choose at least one option.*)

1. Account fees and charges
2. Interest rates and returns
3. Security and privacy
4. Mobile application and website experience
5. Financial products and services
6. Community and social involvement
7. Overall reputation

Q8-1: Are you hesitant using financial products (such as personal loan/ home loan/ credit/ Investment) through a digital platform, for instance an application?

- No
- Yes

Q8-2: Which of the following options is the main reason for your hesitation?

- Lack of human interaction
- Fear of complicated processes
- Lack of transparency (unclear terms & conditions, privacy concerns...)
- Limited trust in the reliability of digital platforms
- Other (please specify)

Q9: How important to you is the digital experience provided by a bank (such as online banking, mobile application)?

Group part

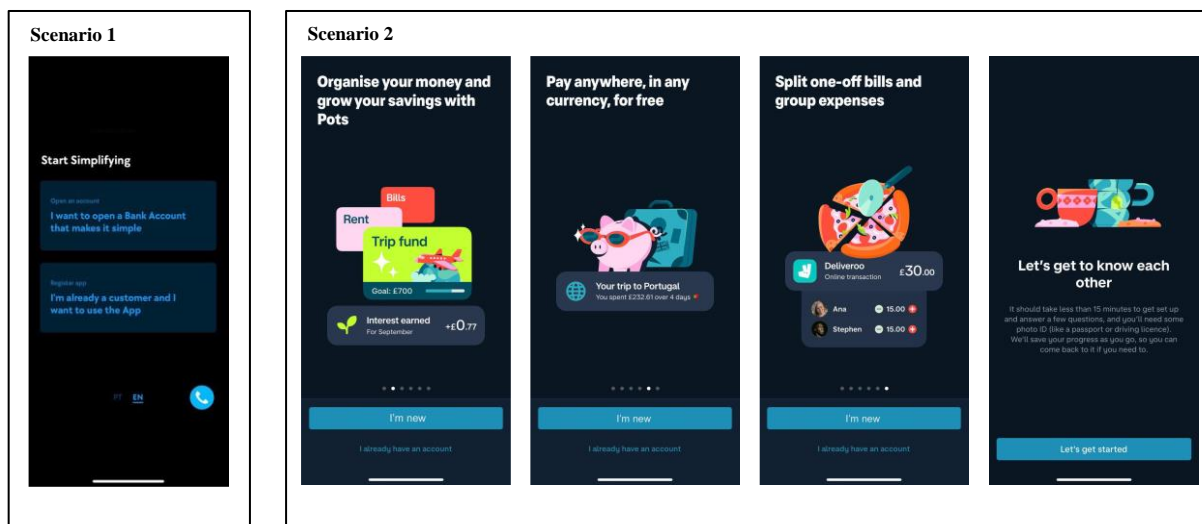
- Not at all important
- Slightly important
- Moderately important
- Very important
- Extremely important

Questions on Pre-Onboarding

Q10: Rank the following options from most (1) to least (6) important in terms of the information that would persuade you to open a bank account:

- Interest rates and fees
- Online banking features and accessibility
- Branch and ATM locations
- Customer reviews and reputation
- Account types and options
- Investment & trading opportunities

Imagine you download the mobile application of a digital bank, before even opening a bank account. When opening the application, you end up on one of the following landing pages.



Q11: Which of the two options do you prefer?

- Scenario 1
- Scenario 2

Questions on Onboarding (Opening a Bank Account)

Q12-1: Have you ever done bureaucratic processes online?

(Online bureaucratic processes involve formal procedures conducted through digital platforms, such as applying for government permits, applying for jobs, opening accounts, licenses etc.)

- No
- Yes

Group part

Q12-2: What were the major pain points?

- Lengthy processes
- Excessive documentation
- Technical glitches
- Privacy concerns
- Limited support

Q13: How long do you think is an acceptable duration for opening a bank account online, knowing that you have to provide legal documents and do a video call with the bank?

- 15 minutes
- 30 minutes
- Up to an hour
- More than 1 hour

Q14: When it comes to the process of activating a bank account, please rank the following factors in order of importance to you, with 1 being your top priority and 5 being your lowest priority:

- Ease of use
- Transparency
- Speed
- Simplicity
- Entertainment

Instantly after

The following section is about the phase after you have opened a bank account and are fully registered at the bank.

Q15: How many straightforward questions would you be comfortable answering to share basic information, knowing that your responses will enable the bank to offer personalized products and services?

- Not more than 5 questions
- Not more than 10 questions
- Not more than 15 questions
- Not more than 20 questions
- More than 20 questions

Q16: What kind of incentives would motivate you to answer these straightforward questions?

- Monetary incentives
- Enhanced and more tailored product offerings
- Financial education resources and seminars
- Access to additional banking services

Q17: Which of the following do you prefer for this questionnaire? (*Please select the option that best aligns with your preferences.*)

- Clean and professional design
- Fun and visually appealing design

Group part

- Interactive features
- User-friendly layout
- Minimalistic design

Q18: What kind of information would you rather not like to share with your bank? (*Select all that apply*)

- Detailed health information
 - Personal relationships or Marital status
 - Future financial decisions
 - Educational Background and qualifications
 - Shopping preferences and history
 - Political affiliations or beliefs
 - Legal or Criminal history
-

Daily usage

Q19: How do you typically prefer to communicate with your bank in general?

- In person
- Phone
- Online chatting

Q20: How do you prefer to receive product recommendations from your bank?

- Push notifications
- In-application suggestions
- Email notifications
- Phone calls
- Physical mail
- Other (please specify)

Q21: To what extent would you appreciate your bank suggesting you products/actions or services? (*Multiple selection is possible*)

- Never
- Once per month
- Once per week
- Once per day
- Based on certain events
- Only upon request

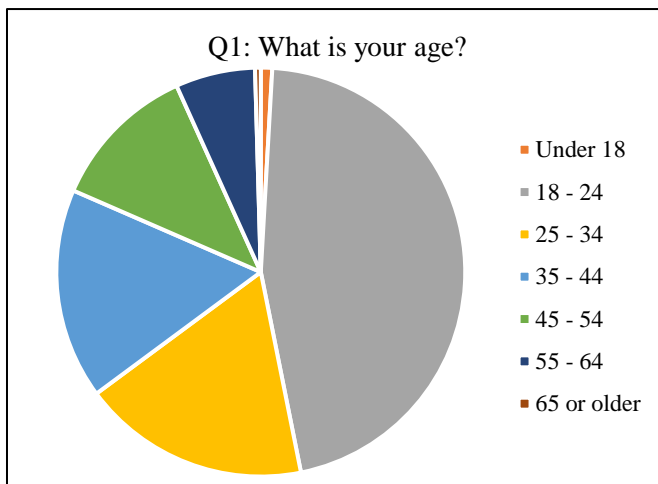
Thank you for participating in this survey.

Group part

2. Appendix 2 – SPSS Data Analysis (Survey Findings)

Q1: What is your age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18	2	.9	.9	.9
	18 - 24	102	45.9	45.9	46.8
	25 - 34	40	18.0	18.0	64.9
	35 - 44	37	16.7	16.7	81.5
	45 - 54	26	11.7	11.7	93.2
	55 - 64	14	6.3	6.3	99.5
	65 or older	1	.5	.5	100.0
	Total	222	100.0	100.0	



Q2: What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	100	45.0	45.0	45.0
	Female	122	55.0	55.0	100.0
	Total	222	100.0	100.0	

Q3: What is your highest level of education?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School or less	37	16.7	16.7	16.7
	Some college or vocational training	9	4.1	4.1	20.7
	Bachelor's degree	47	21.2	21.2	41.9
	Master's degree	117	52.7	52.7	94.6
	Doctoral degree	10	4.5	4.5	99.1
	Prefer not to say	2	.9	.9	100.0
	Total	222	100.0	100.0	

Q4: What is your employment status?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed full-time	96	43.2	43.2	43.2
	Employed part-time	16	7.2	7.2	50.5
	Self-employed	14	6.3	6.3	56.8
	Student	94	42.3	42.3	99.1
	Retired	2	.9	.9	100.0
		Total	222	100.0	100.0

Group part

Q5: What is your monthly household income?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under €400	41	18.5	18.5	18.5
	400 – €800	24	10.8	10.8	29.3
	801 – €1200	26	11.7	11.7	41.0
	1201 – €1800	21	9.5	9.5	50.5
	1801 – €2500	8	3.6	3.6	54.1
	2501 – €3500	37	16.7	16.7	70.7
	€3501 or more	65	29.3	29.3	100.0
	Total	222	100.0	100.0	

Q6: What are the key factors that influence your decision to choose a bank?

Statistics								
		Convenience and accessibility of branch	User friendly online/mobile experience	Competitive interest rates and fees	Trustworthiness and reputation of the bank	Recommendations from friends and family	Range of available financial products and services	Customer service quality and responsiveness
N	Valid	222	222	222	222	222	222	222
	Missing	0	0	0	0	0	0	0
Mode		0	1	0	0	0	0	0
Sum		57	117	79	103	81	45	99

Convenience and accessibility of branch				
		Frequency	Percent	Cumulative Percent
Valid	Convenience and accessibility of branch	57	25.7	25.7
	Not selected	165	74.3	100.0
Total		222	100.0	100.0

User friendly online/mobile experience				
		Frequency	Percent	Cumulative Percent
Valid	Not selected	105	47.3	47.3
	User friendly online/mobile experience	117	52.7	100.0
Total		222	100.0	100.0

Competitive interest rates and fees				
		Frequency	Percent	Cumulative Percent
Valid	Competitive interest rates and fees	79	35.6	35.6
	Not selected	143	64.4	100.0
Total		222	100.0	100.0

Trustworthiness and reputation of the bank				
		Frequency	Percent	Cumulative Percent
Valid	Trustworthiness and reputation of the bank	103	46.4	46.4
	Not selected	119	53.6	100.0
Total		222	100.0	100.0

Recommendations from friends and family				
		Frequency	Percent	Cumulative Percent
Valid	Recommendations from friends and family	81	36.5	36.5
	Not selected	141	63.5	100.0
Total		222	100.0	100.0

Range of available financial products and services				
		Frequency	Percent	Cumulative Percent
Valid	Range of available financial products and services	45	20.3	20.3
	Not selected	177	79.7	100.0
Total		222	100.0	100.0

Customer service quality and responsiveness				
		Frequency	Percent	Cumulative Percent
Valid	Customer service quality and responsiveness	99	44.6	44.6
	Not selected	123	55.4	100.0
Total		222	100.0	100.0

Q7: Which of the following factors would influence your decision to recommend your bank to others?

Statistics								
		Account fees and charges	Interest rates and returns	Security and privacy	Mobile app and website experience	Financial products and services	Community and social involvement	Overall reputation
N	Valid	222	222	222	222	222	222	222
	Missing	0	0	0	0	0	0	0
Mode		1	0	0	1	0	0	0
Sum		114	82	81	128	55	14	82

Group part

Account fees and charges					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	108	48.6	48.6	48.6
	Account fees and charges	114	51.4	51.4	100.0
	Total	222	100.0	100.0	

Interest rates and returns					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Interest rates and returns	82	36.9	36.9	36.9
	0	140	63.1	63.1	100.0
	Total	222	100.0	100.0	

Security and privacy					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Security and privacy	81	36.5	36.5	36.5
	0	141	63.5	63.5	100.0
	Total	222	100.0	100.0	

Mobile app and website experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	94	42.3	42.3	42.3
	Mobile app and website experience	128	57.7	57.7	100.0
	Total	222	100.0	100.0	

Financial products and services					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Financial products and services	55	24.8	24.8	24.8
	0	167	75.2	75.2	100.0
	Total	222	100.0	100.0	

Community and social involvement					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Community and social involvement	14	6.3	6.3	6.3
	0	208	93.7	93.7	100.0
	Total	222	100.0	100.0	

Overall reputation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Overall reputation	82	36.9	36.9	36.9
	0	140	63.1	63.1	100.0
	Total	222	100.0	100.0	

Q8-1, -2: Are you hesitant using financial products (such as personal loan/ home loan/ credit/ Investment) through a digital platform, for instance an application? Which of the following options is the main reason for your hesitation?

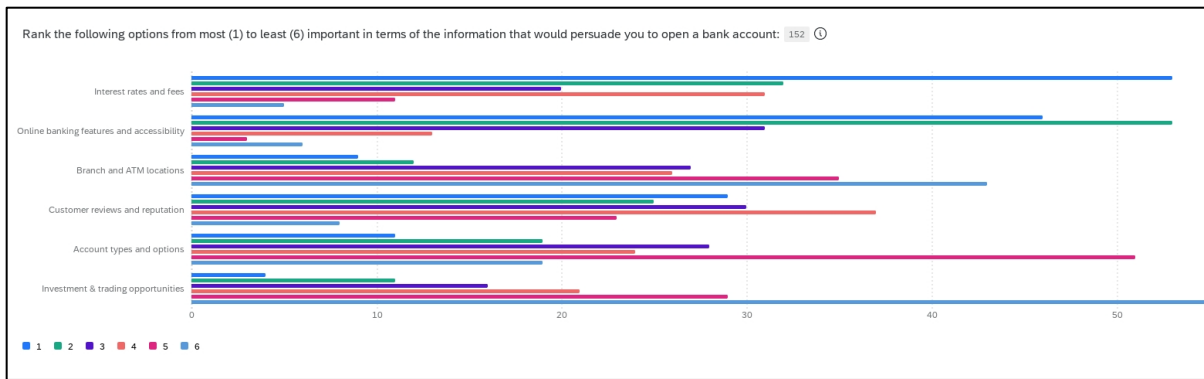
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Are not hesitant	142	64.0	64.0	64.0
	Lack of human interaction	22	9.9	9.9	73.9
	Fear of complicated processes	8	3.6	3.6	77.5
	Lack of transparency (unclear terms & conditions, privacy concerns...)	26	11.7	11.7	89.2
	Limited trust in the reliability of digital platforms	21	9.5	9.5	98.6
	Other (Please specify)	3	1.4	1.4	100.0
	Total	222	100.0	100.0	

Q9: How important to you is the digital experience provided by a bank (such as online banking, mobile application)?

N	Valid	Missing		Frequency	Percent	Valid Percent	Cumulative Percent
	222	0					
Mean	4.09		Valid	Slightly important	4	1.8	1.8
Std. Deviation	.857			Not at all important	6	2.7	4.5
Skewness	-1.394			Moderately important	24	10.8	15.3
Std. Error of Skewness	.163			Extremely important	70	31.5	46.8
Range	4			Very important	118	53.2	100.0
Minimum	1			Total	222	100.0	100.0
Maximum	5						

Q10: Rank the following options from most (1) to least (6) important in terms of the information that would persuade you to open a bank account:

Group part



Q11: Which of the two options do you prefer?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Scenario 1	80	36.0	36.0	36.0
	Scenario 2	142	64.0	64.0	100.0
Total		222	100.0	100.0	

Q12-1: Have you ever done bureaucratic processes before?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	33	14.9	18.8	18.8
	Yes	143	64.4	81.3	100.0
	Total	176	79.3	100.0	
Missing	System	46	20.7		
Total		222	100.0		

Q12-2: What were the major pain points?

		Statistics				
		Lengthy processes	Excessive documentation	Technical glitches	Privacy concerns	Limited support
N	Valid	222	222	222	222	222
	Missing	0	0	0	0	0
Sum		83	67	60	26	70

Q13: How long do you think is an acceptable duration for opening a bank account online, knowing that you have to provide legal documents and do a video call with the bank?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More than 1 hour	12	5.4	5.4	5.4
	15 minutes	33	14.9	14.9	20.3
	Up to an hour	44	19.8	19.8	40.1
	30 minutes	133	59.9	59.9	100.0
	Total	222	100.0	100.0	

Q14: When it comes to the process of activating a bank account, please rank the following factors in order of importance to you, with 1 being your top priority and 5 being your lowest priority:

Group part



Q15: How many straightforward questions would you be comfortable answering to share basic information, knowing that your responses will enable the bank to offer personalized products and services?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More than 20 questions	3	1.4	1.4	1.4
	Not more than 20 questions	13	5.9	5.9	7.2
	Not more than 5 questions	56	25.2	25.2	32.4
	Not more than 10 questions	63	28.4	28.4	60.8
	Not more than 15 questions	87	39.2	39.2	100.0
Total		222	100.0	100.0	

Q16: What kind of incentives would motivate you to answer these straightforward questions?

		Statistics			
		Monetary incentives	Enhanced and more tailored product offerings	Financial education resources and seminars	Access to additional banking services
N	Valid	222	222	222	222
	Missing	0	0	0	0
Sum		96	58	46	72

		Monetary incentives			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Monetary incentives	96	43.2	43.2	43.2
	0	126	56.8	56.8	100.0
	Total	222	100.0	100.0	

		Enhanced and more tailored product offerings			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Enhanced and more tailored product offerings	58	26.1	26.1	26.1
	0	164	73.9	73.9	100.0
	Total	222	100.0	100.0	

		Financial education resources and seminars			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Financial education resources and seminars	46	20.7	20.7	20.7
	0	176	79.3	79.3	100.0
	Total	222	100.0	100.0	

		Access to additional banking services			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Access to additional banking services	72	32.4	32.4	32.4
	0	150	67.6	67.6	100.0
	Total	222	100.0	100.0	

Q17: Which of the following do you prefer for this questionnaire?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Interactive features	5	2.3	2.3	2.3
	Fun and visually appealing design	6	2.7	2.7	5.0
	Minimalistic design	10	4.5	4.5	9.5
	Clean and professional design	71	32.0	32.0	41.4
	User-friendly layout	130	58.6	58.6	100.0
Total		222	100.0	100.0	

Q18: What kind of information would you rather not like to share with your bank?

Group part

Statistics								
		Detailed health information	Personal relationships or Marital status	Future financial decisions	Educational Background and qualifications	Shopping preferences and history	Political affiliations or beliefs	Legal or Criminal history
N	Valid	222	222	222	222	222	222	222
	Missing	0	0	0	0	0	0	0
Sum		133	56	38	28	88	138	79

Detailed health information					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	89	40.1	40.1	40.1
	Detailed health information	133	59.9	59.9	100.0
	Total	222	100.0	100.0	

Personal relationships or Marital status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Personal relationships or Marital status	56	25.2	25.2	25.2
	0	166	74.8	74.8	100.0
	Total	222	100.0	100.0	

Future financial decisions					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Future financial decisions	38	17.1	17.1	17.1
	0	184	82.9	82.9	100.0
	Total	222	100.0	100.0	

Educational Background and qualifications					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Educational Background and qualifications	28	12.6	12.6	12.6
	0	194	87.4	87.4	100.0
	Total	222	100.0	100.0	

Shopping preferences and history					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Shopping preferences and history	88	39.6	39.6	39.6
	0	134	60.4	60.4	100.0
	Total	222	100.0	100.0	

Political affiliations or beliefs					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	84	37.8	37.8	37.8
	Political affiliations or beliefs	138	62.2	62.2	100.0
	Total	222	100.0	100.0	

Legal or Criminal history					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Legal or Criminal history	79	35.6	35.6	35.6
	0	143	64.4	64.4	100.0
	Total	222	100.0	100.0	

Q19: How do you typically prefer to communicate with your bank in general?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	In person	46	20.7	20.7	20.7
	Phone call	68	30.6	30.6	51.4
	Online chatting	108	48.6	48.6	100.0
	Total	222	100.0	100.0	

Q20: How do you prefer to receive product recommendations from your bank?

Statistics							
		Push notifications	In-app suggestions	Email notifications	Phone calls	Physical mail	Other
N	Valid	222	222	222	222	222	222
	Missing	0	0	0	0	0	0
Sum		43	91	77	17	23	3

Push notifications					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Push notifications	43	19.4	19.4	19.4
	0	179	80.6	80.6	100.0
	Total	222	100.0	100.0	

In-app suggestions					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	In-app suggestions	91	41.0	41.0	41.0
	0	131	59.0	59.0	100.0
	Total	222	100.0	100.0	

Email notifications					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Email notifications	77	34.7	34.7	34.7
	0	145	65.3	65.3	100.0
	Total	222	100.0	100.0	

Phone calls					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Phone calls	17	7.7	7.7	7.7
	0	205	92.3	92.3	100.0
	Total	222	100.0	100.0	

Group part

Physical mail					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Physical mail	23	10.4	10.4	10.4
	0	199	89.6	89.6	100.0
	Total	222	100.0	100.0	

Other					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other (please specify)	3	1.4	1.4	1.4
	0	219	98.6	98.6	100.0
	Total	222	100.0	100.0	

Crosstabs: Q20 - Age Group

		0	Push notifications	Total
What is your age?	Under 18	1	1	2
	18 - 24	80	22	102
	25 - 34	35	5	40
	35 - 44	30	7	37
	45 - 54	20	6	26
	55 - 64	13	1	14
	65 or older	0	1	1
Total		179	43	222

		0	In-app suggestions	Total
What is your age?	Under 18	2	0	2
	18 - 24	53	49	102
	25 - 34	20	20	40
	35 - 44	29	8	37
	45 - 54	17	9	26
	55 - 64	9	5	14
	65 or older	1	0	1
Total		131	91	222

		0	Email notifications	Total
What is your age?	Under 18	2	0	2
	18 - 24	69	33	102
	25 - 34	20	20	40
	35 - 44	31	6	37
	45 - 54	15	11	26
	55 - 64	7	7	14
	65 or older	1	0	1
Total		145	77	222

		0	Phone calls	Total
What is your age?	Under 18	2	0	2
	18 - 24	97	5	102
	25 - 34	38	2	40
	35 - 44	36	1	37
	45 - 54	18	8	26
	55 - 64	13	1	14
	65 or older	1	0	1
Total		205	17	222

		0	Physical mail	Total
What is your age?	Under 18	2	0	2
	18 - 24	93	9	102
	25 - 34	35	5	40
	35 - 44	36	1	37
	45 - 54	21	5	26
	55 - 64	11	3	14
	65 or older	1	0	1
Total		199	23	222

Q21: To what extent would you appreciate your bank suggesting you products/actions or services?

		Statistics					
		Never	Once per month	Once per week	Once per day	Based on certain events	Only upon request
N	Valid	222	222	222	222	222	222
	Missing	0	0	0	0	0	0
Sum		22	85	14	1	67	47

3. Appendix 3 - Interview Guiding Questions and Answers

The interviews were carried out in a semi-structured way and participants answered some questions within other questions, creating overlaps in answers, because of this some questions may lack participants answers in this appendix.

Q1: What is your age?

Q2: What is your gender?

Q3: What is your highest level of education?

Q4: What is your employment status?

Q5: Do you hold multiple bank accounts/do you have a secondary bank? Do you use their mobile application? Thoughts on it?

→ Everyone that was interviewed had two or more accounts. Everyone has had the chance to use the application of their primary and secondary banks, and no-one said there were issues, in contrast everyone said their primary bank's application was very clean and professional.

Q6: For what reasons do you have a secondary bank? (Mention the options if interviewee doesn't have a response)

Leading Options:

For budgeting your income

To mark the start to your independent life

You went to another country and needed a new account to pay with the local currency

→ The answer to this question varied, but the common thread among the answer was the USP of the neobanks (Revolut with good conversion fees, N26 with free ATM withdrawals).

Group part

Convenience of setup was also mentioned, as well as it being a marker of independence from parents.

P1: “Because they offer minimal fees when abroad but I don’t want to put all my money on those Application so when I need to make a transaction I just need to transfer the amount wanted on the secondary account and it’s done within a second. You know, when you’re in a country with another currency sometimes you have to pay for the currency conversion. I also use that account for online payment when a Visa card is needed.”

P2: “For international transfer, international use, for buying online, it is also very easy to transfer money to friends with Revolut as you just need their phone number.”

P3: “Transfer money → controls spending; internationally compatible; no fees; transparent usage; user friendly”

P4: “Went to another country and needed account to pay with; independence from parents; no credit card fees”

P5: “I use the secondary bank to have various accounts to better organize my finances and spending. I chose Revolut mainly because of the good offer, and N26 because of the free ATM usage three times a month when I’m abroad. I use my primary bank for my salary because it has always been my first bank, where I have most of my money and personal contacts.”

P6: “I use my secondary bank to have various accounts, which helps me better organize my finances. I never really thought about my choice except for the fact that I was looking for a bank where I do not have any ATM fees when I am abroad.”

P7: “Yeah. Then I got two accounts here. The traditional bank accounts used to be my main one, but I all like changing a lot more to my online bank account, but I still got the traditional one because like for example, my parents got that one and my whole family has that one. But my day-to-day account is on revolut. And also if for example, pay for university even is made over the online bank nowadays.”

Group part

P8: “I use a digital bank as a secondary account mainly for everyday transactions, and I don't consider it for major financial actions like housing loans for a few reasons: First, I still have more trust in traditional banks for significant financial transactions. I feel like they have a long-standing reputation and might offer more personalized assistance when dealing with complex financial matters like loans. Second, my online bank may not have all the necessary services and options for such substantial transactions. I worry that it might not have the same range of financial products or a physical presence for in-person consultations if needed. Lastly, I've had a long relationship with my traditional bank, and I'm comfortable with their processes for major financial dealings. Changing my primary bank for these big actions would require a lot of confidence in the digital bank's security, reliability, and overall capability.”

P9: “Respondent has a main account which receives the big transactions such as gov aid and salary when applicable, and a secondary which he uses at uni for d2d living”

P10: “Primary is the one I have direct/daily contact and the one I'd receive my salary at the moment. Knowing that the secondary account would be Revolut, the main reason for not using it as my primary is because I consider it to be merely an easier way to exchange money (€→£) and use it abroad for safety measures.”

Q7: If you have more than one bank account and differentiate between primary (explain) and secondary (explain), for which reasons do you not use the secondary as your primary.

→ Many responses indicate that because nothing is wrong with their current primary bank, they don't have a reason to change. People point towards a high switching cost of changing banks and the inconvenience to do it.

P1: “Because I have kind of a trust issue with those since the bank is not Belgian based.”

P2: “I think I feel secure to be able to go in an office in my country for my main account, I also think it is easier to have a Belgian account while living in Belgium. However, Revolut

Group part

works well internationally. Also I think I stay with the 1st one as it is my original bank account and I am used to it, so I don't take the initiative to change."

P3: "When Neobanks were new, she didn't know how safe it would be, if it would hold up in the market; Dual strategy (safety); Securing assets in another bank"

P4: "There is trust for the neobank account, but she was not aware of offered services in the more serious direction; Main purpose is quick and easy; Switching costs are high for her;"

P5: "I don't see a reason to change my primary bank because everything is working well, and I appreciate having a personal point of contact that I know in person. I also like the primary bank's application. I don't have doubts about using an online bank as my primary bank. For instance, if my secondary bank offered better interest rates, I would consider switching."

P6: "I like to organize my finances with my secondary bank and I use it for daily payments, but I deal with rather low amounts in this account. I do not use it as my primary account as I think it's not really tailored to my needs, and if I would need financial advice, I would rather trust my personal contact at my primary bank."

P9: "Respondent doesn't have any doubts about using Neobanks for such services, just a matter of familiarizing themselves with the firm"

P10: "limited physical contact (customer support); No available ATM's to deposit money"

Q8: Do you have any holdbacks/hesitancies(?) about using Neobank services such as loans or investments? (Due to the similarity between Q7-Q8, some answers were naturally answered in Q7, as such, please refer to individual answers in Q7.)

Group part

→ People are still concerned about the legitimacy of these institutions, some respondents point towards a dual strategy as a precaution, where they treat their Neobank account as a prepaid card.

Q9: What factors contribute the most to your loyalty to a bank? (e.g., customer service, interest rates, mobile application, fees)

P1: “Security probably comes first then I’ll say mobile application, and finally interest rates; Protection of my money, I don’t want my money to disappear like people got with N26.”

P2: “Currently I would say customer service and monthly fees, because I’m not in the age of investing yet so I’m not paying too much attention to interest rates for example.”

P3: “Ease of use; Trust (stems from easy problem solving); Primary bank is her bank because it was the first bank, but if it wasn’t easy to use, she would switch!”

P4: “That the APPLICATION is good, usability is great, good customer support; main aspect is convenience → she had the bank account already”

P5: “I have been very loyal to my bank so far, but if I were offered monetary incentives, I would consider switching. My loyalty primarily depends on the overall offer. My family also banks there, which adds to my loyalty.”

P6: “I’ve been very loyal to my bank thus far, but I’m not immune to monetary incentives. Overall, the bank’s offer plays a significant role in my loyalty. Additionally, the fact that my family banks there adds to my loyalty.”

P7: “I think nowadays the revolute is actually pretty much my main (primary) bank account and I prefer it to the traditional bank which I had before due to the easier support. On my traditional bank, I usually didn’t get an answer, sent emails, didn’t get an answer, called them. You were in line for several minutes... Whereas with revolute, you just opened a support

Group part

ticket and the problem is resolved in 20 minutes or something like that because they are chatting all the time with you.”

P8: “For me, it's a mix of good customer service and a user-friendly mobile application. I want to know I can get help when I need it, but I also need my banking to be convenient and not cost me a bunch in fees.”

P9: “No transaction fees is a good plus, and existing partnerships with relevant institutions (uni) is great for cost savings. Money cashback is also important”

P10: “Customer service; mobile application or any other online platforms; interest rates; loyalty reward (depending on each bank, some of them provides extra services to clients).”

Q10: What additional features or services would you like to see your bank implement on their mobile application?

P2: “I would like personalize service per country (ppl from Belgium responding to me), Possibility to fix appointments for financial advice, and of course all the interesting features of digital bank (such as budget management, saving options, educational content, etc).”

P8: “I’d like to see features like easy access to investment options, a good rewards program, and a solid savings account with competitive interest rates. If the digital bank could offer these and continue to improve its security measures, I’d seriously think about making the switch.”

P9: “Merit-based evolution, start off slow and as it keeps showing that it works, the more Pedro will keep using it.”

Q11: Would personalized financial advice or recommendations based on your spending habits and financial goals increase your satisfaction with your bank?

P1: “Yes, of course.”

Group part

P3: “Only if she chooses to get the advice, no push notifications; Section for “financial advice”; Account analysis à recommendations; Would be willing to do “an easy test”.”

P4: “Yes, personalized but kept without human contact; Where do they get their info from: MUST make it clear in the beginning that data will be gathered; Suggestions are nice but not too aggressive. If offer is declined once, I do not want to see it; Maybe not a pop-up but rather an “explore page” à check out what’s new in the explore area for you, giving open options, but personalized to her standard; Necessary insurance recommendation or something; Subscription overview”

P5: “I would appreciate personalized offers and financial recommendations. However, the rates and prices will always be essential to me. If the offer is better than what my primary bank provides, it could convince me. I don’t want to be overwhelmed with offers, though. I think I would prefer receiving mailing newsletters or having a dedicated webpage where I can go when I want, rather than receiving push notifications or calls. I would like to have tailored offerings.”

P6: “I would certainly appreciate receiving personalized offers and financial recommendations. However, the ultimate decision would depend on whether the offer is more attractive than what my primary bank provides. There are probably many financial products which would be interesting for me, but I don’t know them.”

P7: “Yes, but. I think I would if I just get an e-mail with them, I’d be fine with them, but as I study finance, I suppose that I got a bit of knowledge so I do not like if they try to tell me what to do with my money. I can inform myself. Yeah. If it’s not like on a daily. Yes, for. Sure, no problem.”

P8: “Yes, it would definitely make me consider switching. If the online bank could provide me with personalized advice and help me save or invest better, I’d be all in.”

Group part

P9: “homepage banner would be the most ideal (personal buy-in is important), push notifications are fine, just need to be a little discreet about it, dont overdo it”

P10: “Nope, I’d prefer to contact only in emergency situations.”

Q12: If another bank with the features you’d want were to exist, how likely are you to switch.

P3: “Theoretically nothing speaks against moving, But it feels a little insecure; Switching costs are high, she doesn’t need it; The only way she would completely switch would be if she didn’t have the convenience at her primary bank; Give NO SPACE for security concerns”

P4: “Assuming the other bank had more benefits, she would think about switching (from 1-10 she’d rank a 7); Switching is always an inconvenience; No trust issues with neobanks being the primary bank account.”

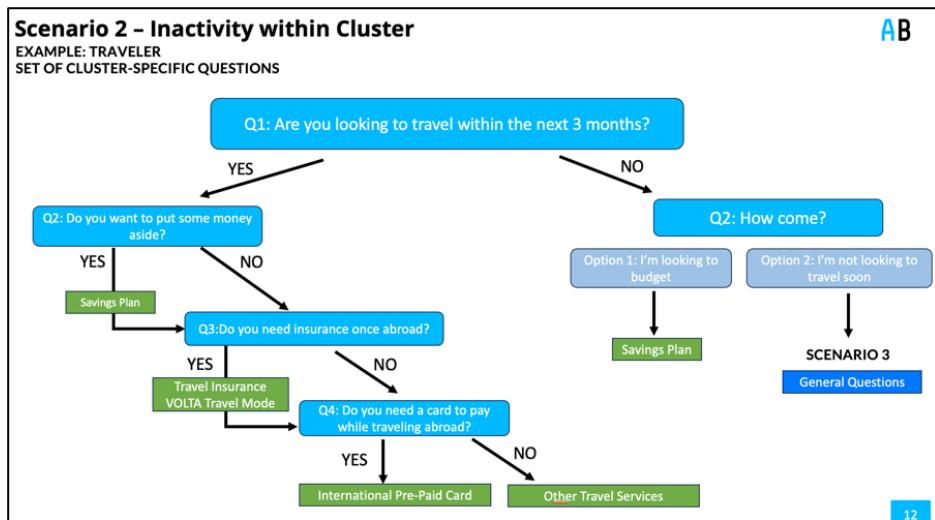
Q13: What would it take for you to switch bank service provider? (ask only if people say “no I would not switch”)

→ **Generalizable information gathered through the various answers to these questions:** Security, quality of the mobile application, and interest rates, customer service, family uses bank aswell, potentially beneficial partnerships, personalized services but without being too pushy about it.

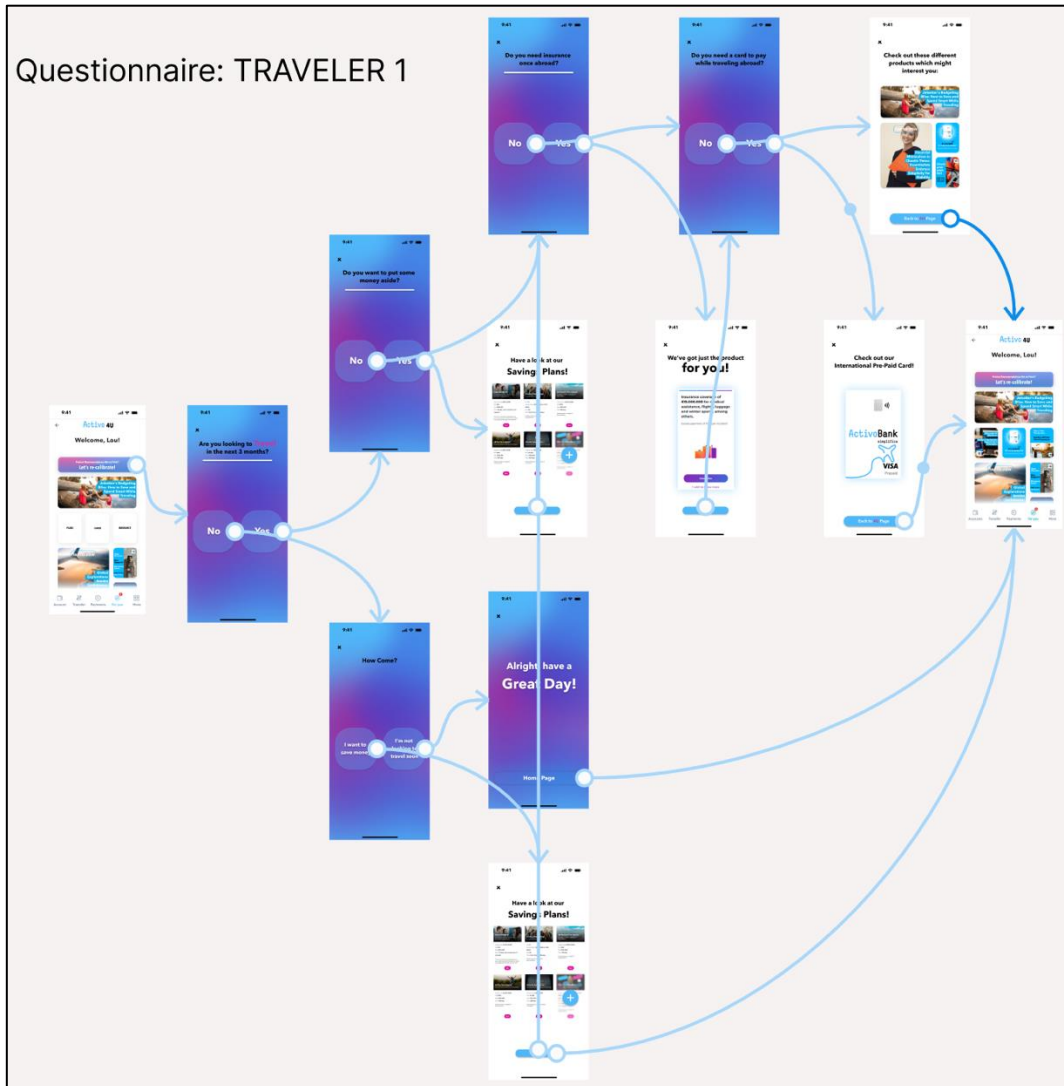
4. Appendix 8: Q2 iterations during the User Testing

Traveler

First version of the traveler Q2:

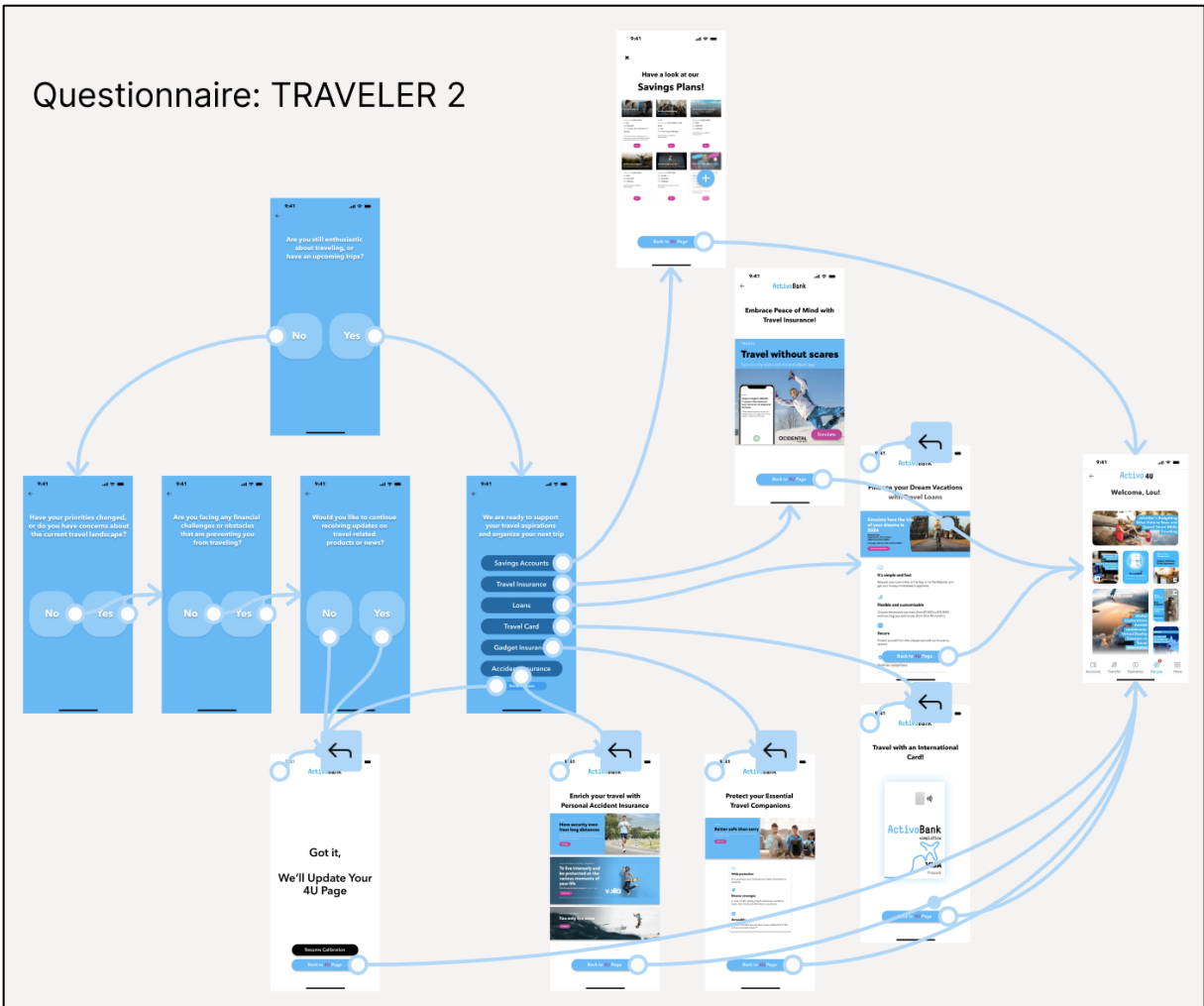


Group part



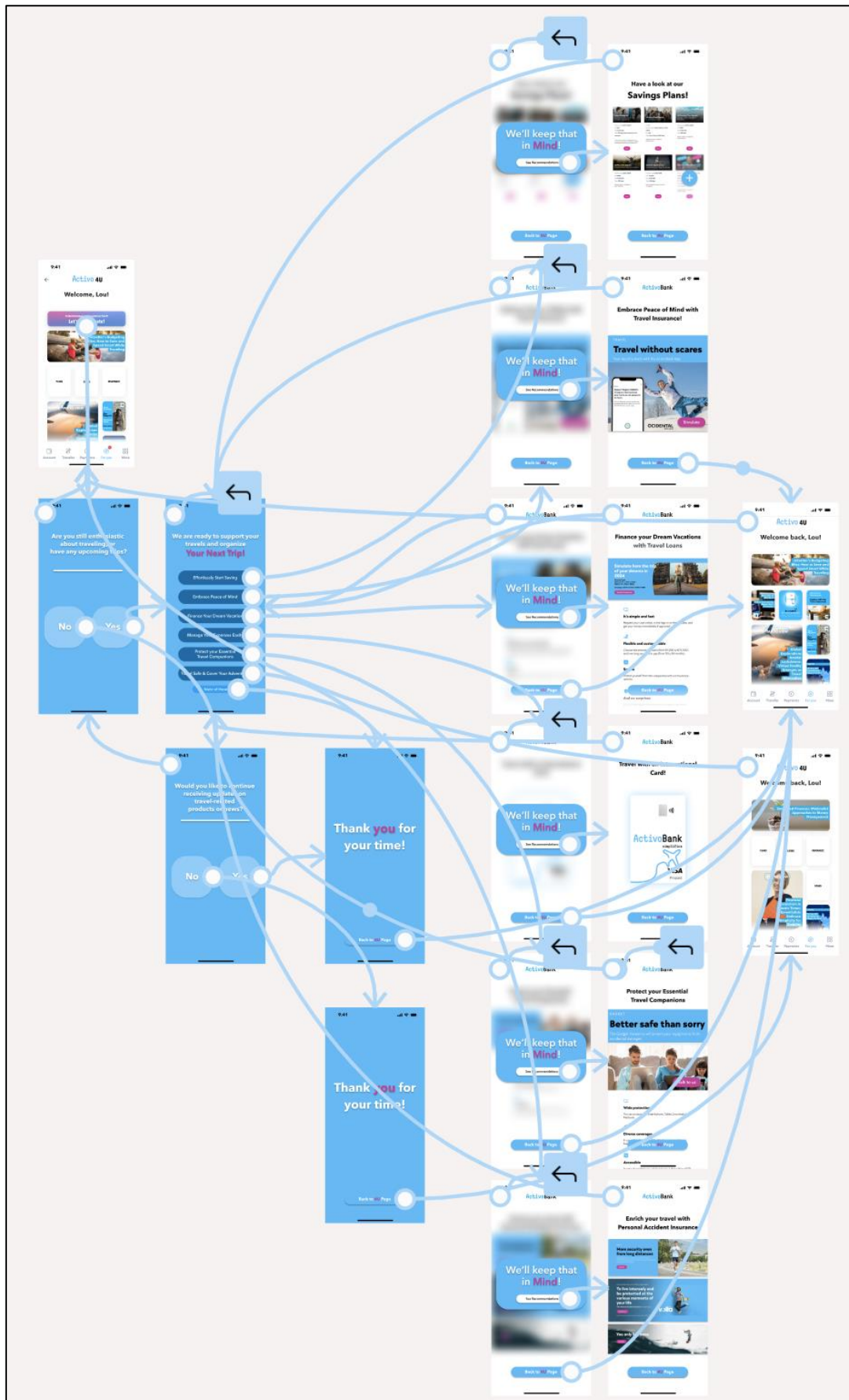
Second version of the traveler Q2:

Questionnaire: TRAVELER 2



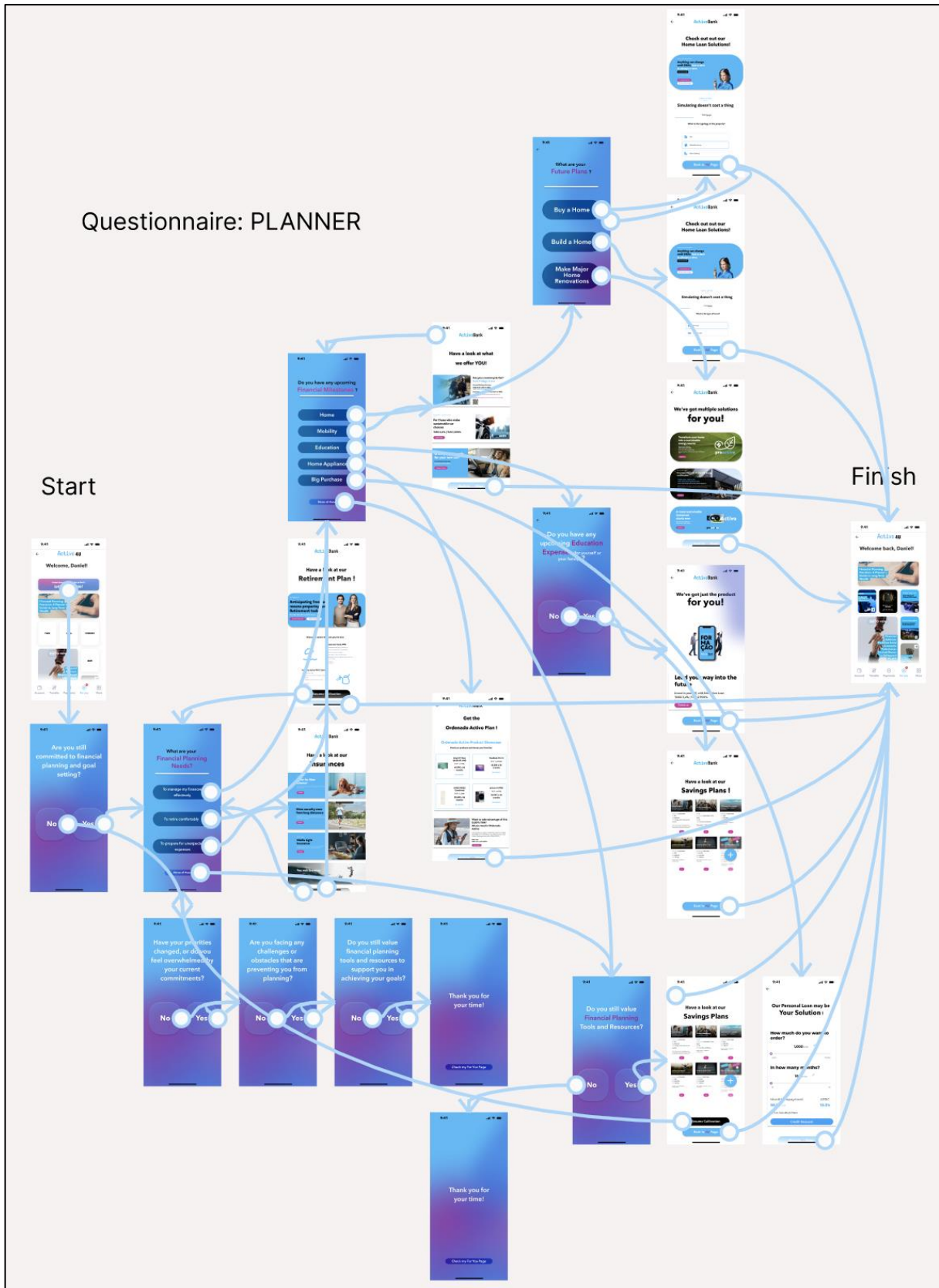
Group part

Final version of the traveler Q2:



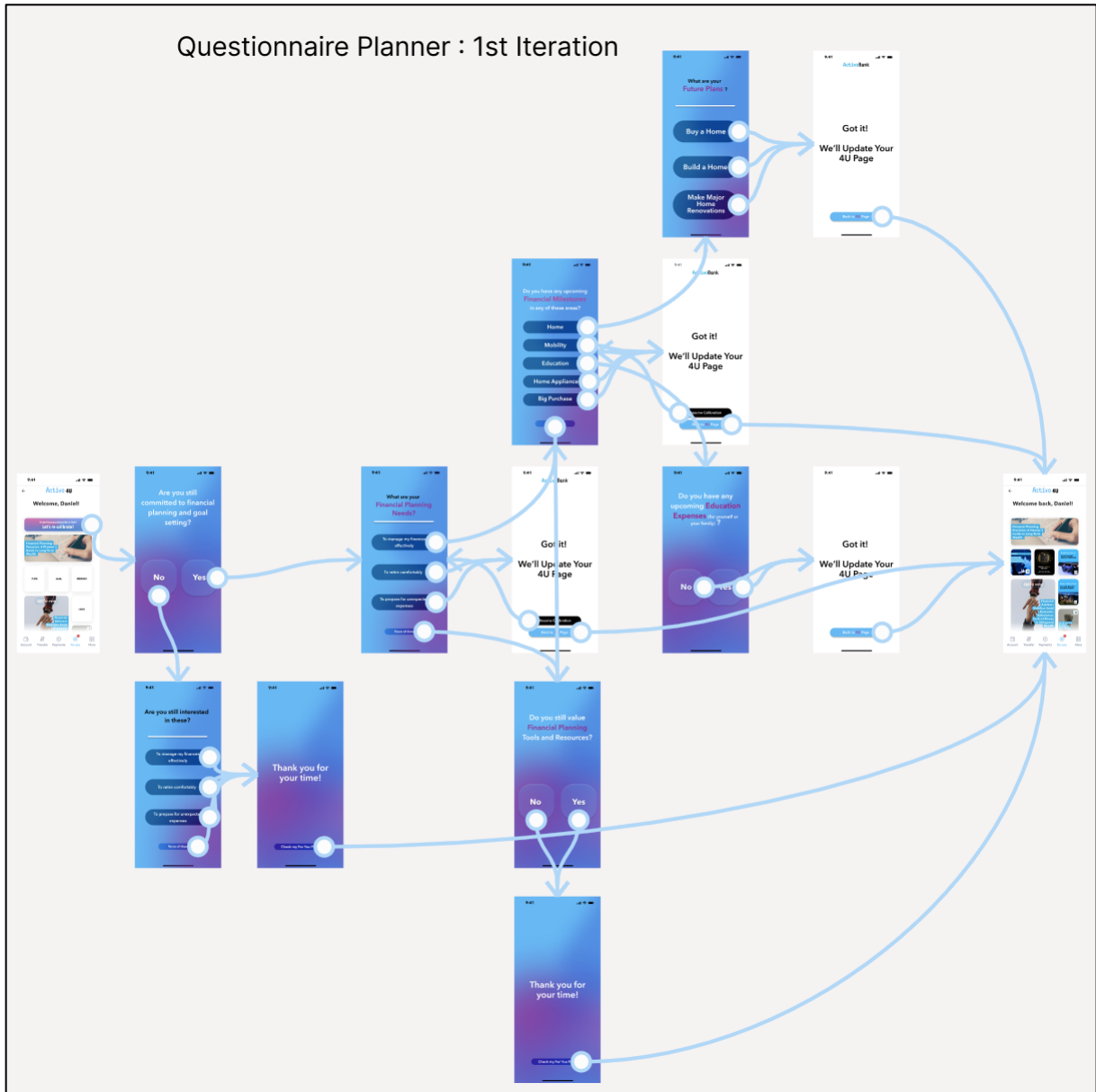
Planner

First version of the planner Q2:



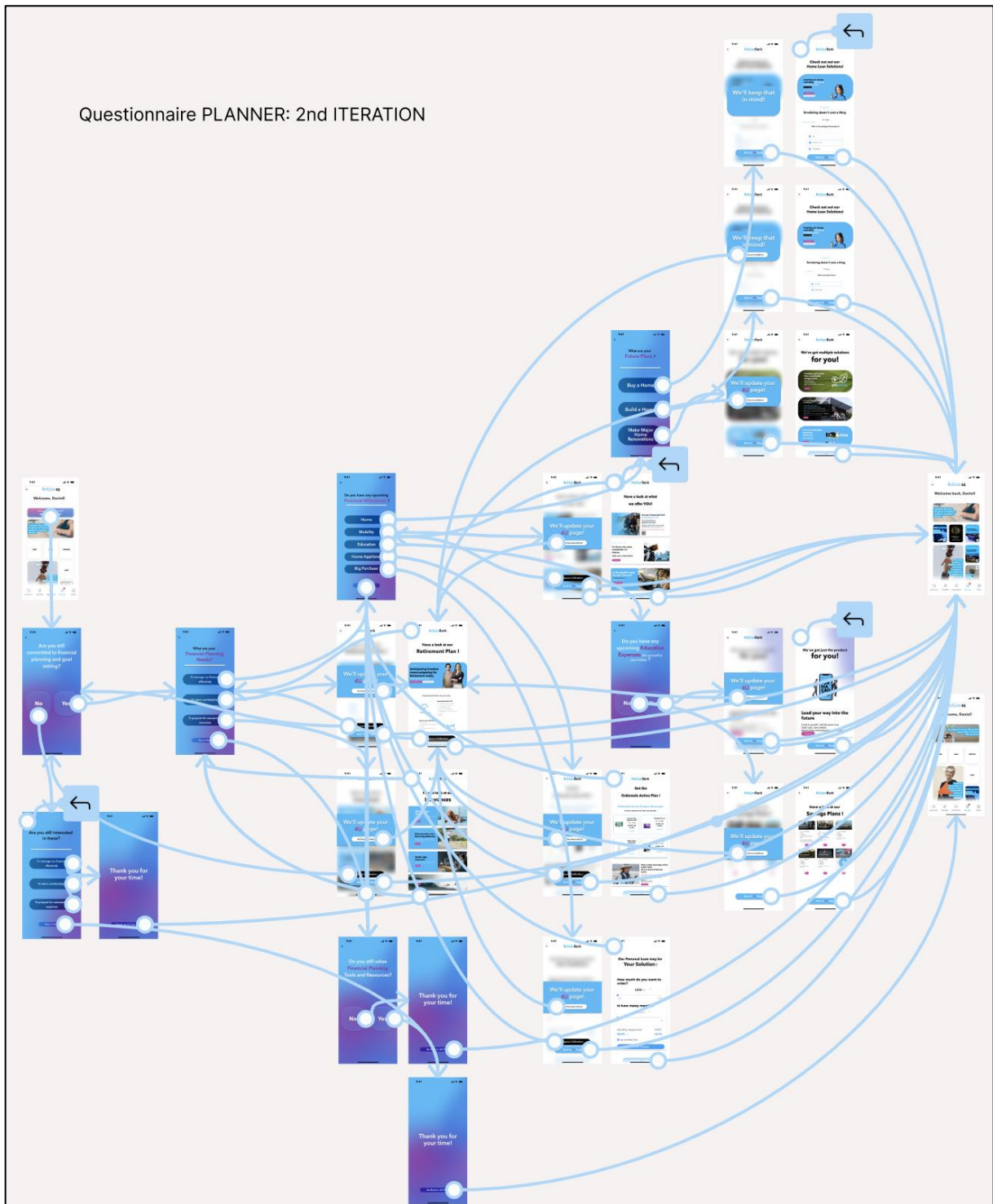
Group part

Second version of the Planner Q2:



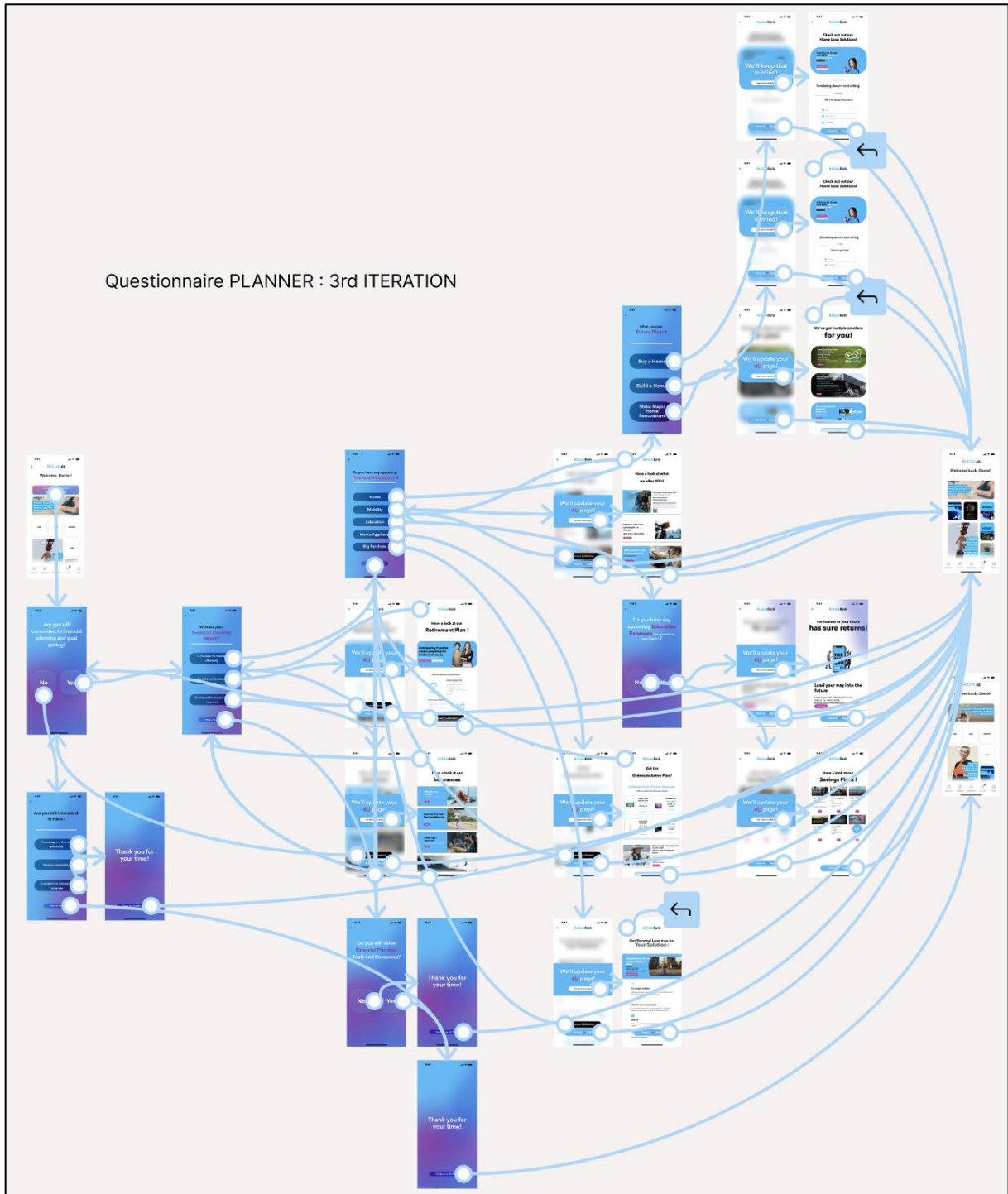
Group part

Third version of the planner Q2:



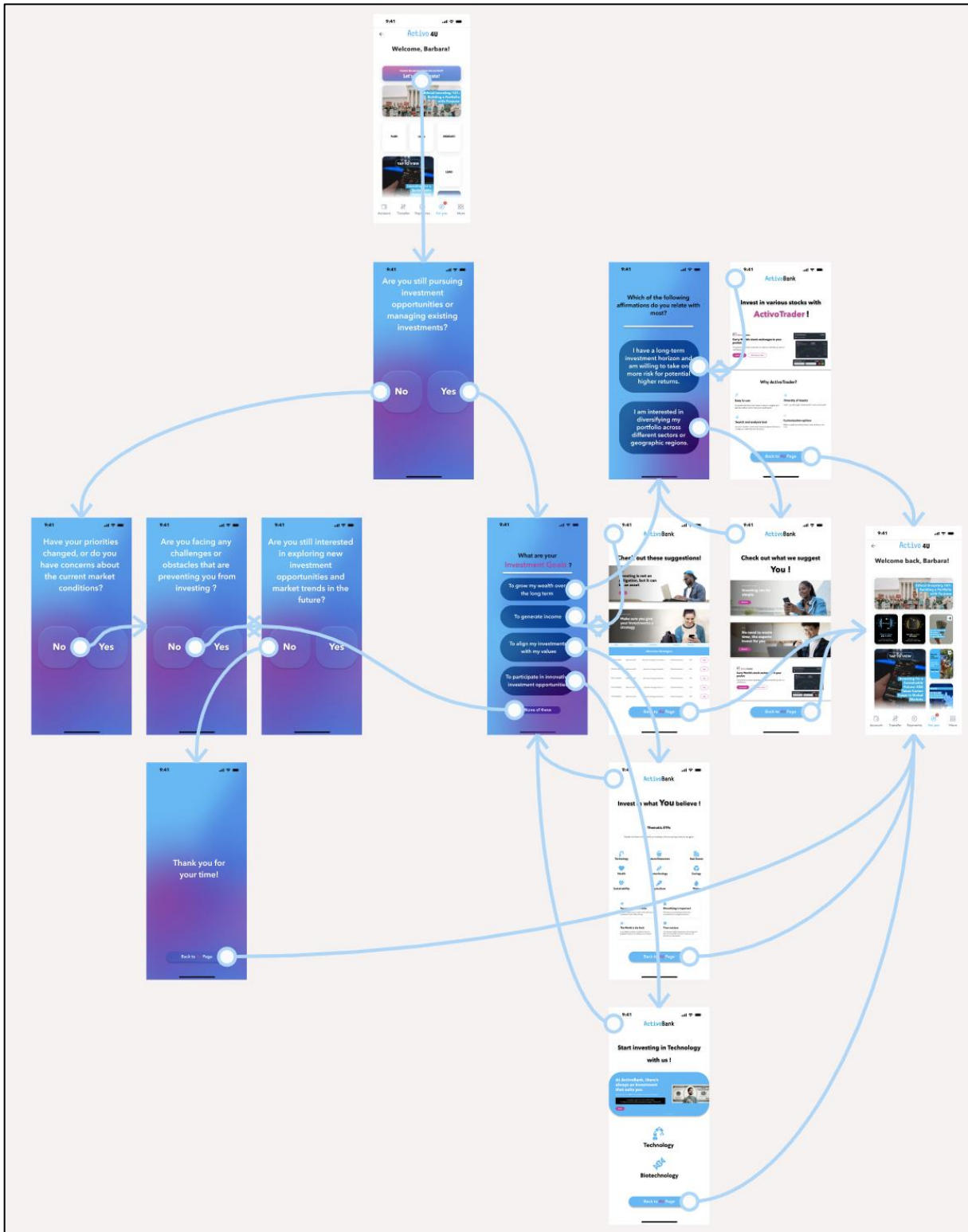
Group part

Fourth version of the Planner Q2:



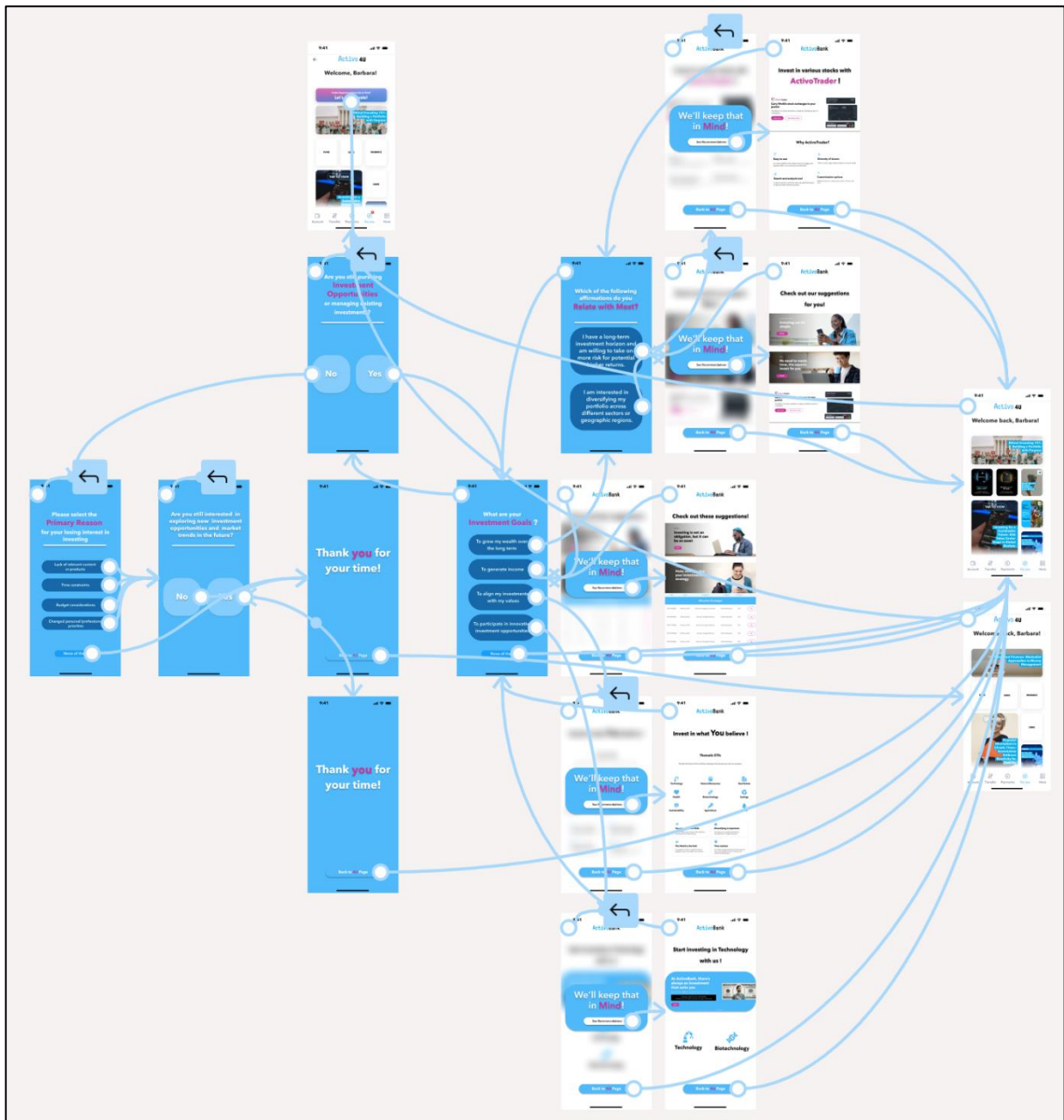
Investor

First version of the Investor Q2:



Group part

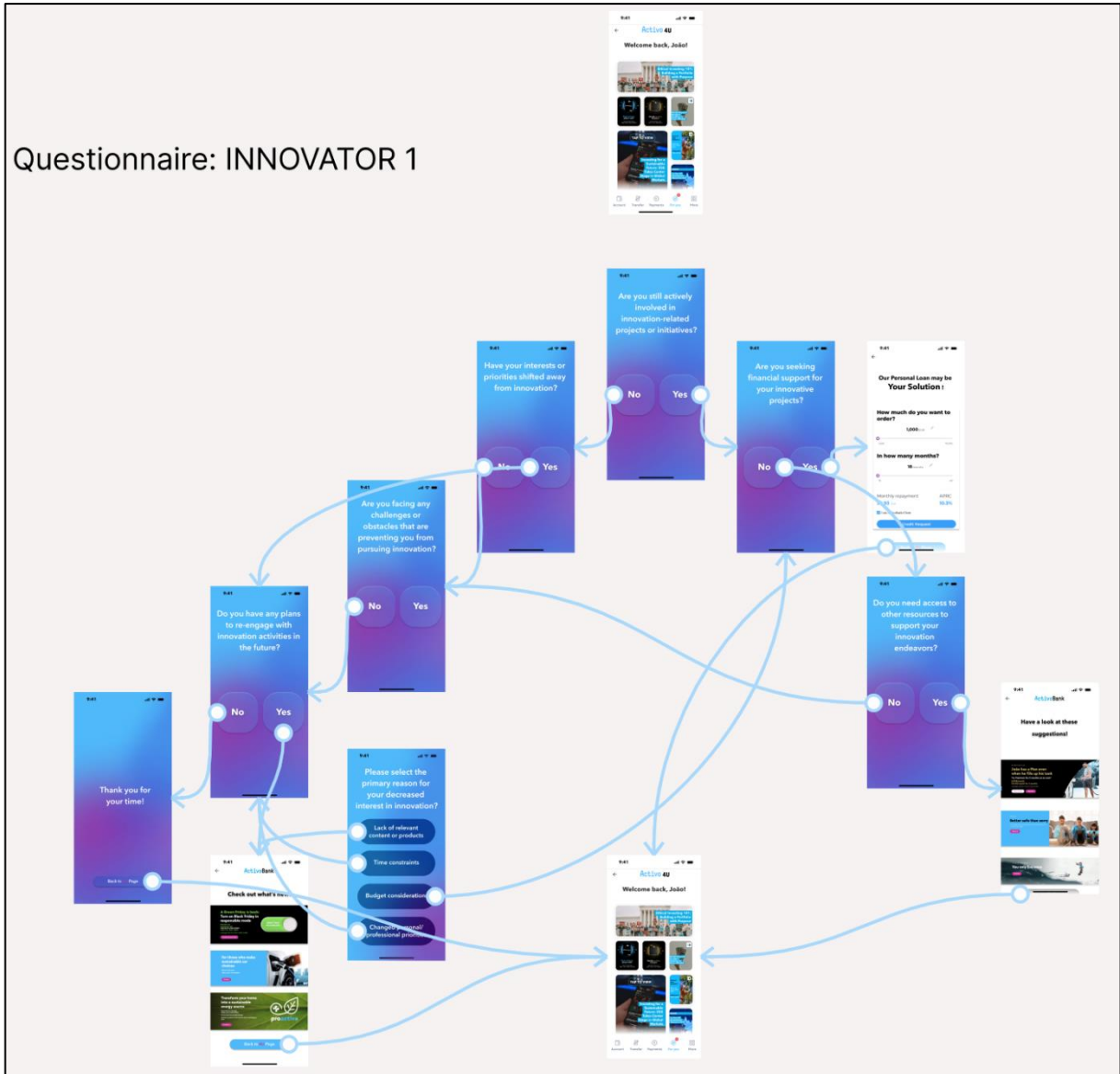
Final version of the Investor Q2:



Innovator

First version of the innovator Q2:

Questionnaire: INNOVATOR 1



Group part

Final version of the innovator Q2:

