

A Work Project presented as part of the requirements for the Award of an International Masters Degree in Management and a Masters Degree in Finance from the NOVA School of Business and Economics.

Innovation in Retail Banking:
Changing the university students perspective of banking

- Entrepreneurship & Innovation Field Lab -

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Business context / Field Lab in Innovation & Entrepreneurship

Bank Y: Bank Y, one of the major players in the sector, aims to disrupt the current Portuguese banking sector in order to develop a more competitive positioning. To perform that effectively, Bank Y created its Living Innovation Lab to develop innovative ideas and push the limits of the Bank's culture with the help of NOVA SBE students and staff. This provides the Bank with a unique chance to develop and test projects, using the university as the so-called Living Lab, where controlled experiments can be run with a very diverse set of people, providing an exceptional opportunity for innovation and co-creation. For reasons of confidentiality, neither the name of the Bank nor the executives involved during the process of the Field Lab will be mentioned, and will, therefore, be referred as Bank Y, Ms. A, Ms. B, Mr. C, and Mr. D.

Project: The Innovation & Entrepreneurship Field Lab assembles several teams of Master's students to develop new concepts to help Bank Y innovate the banking sector and so, maintain a competitive position. At the beginning of the semester, Bank Y provided several highly relevant topics to explore for the teams to select. From the 11th of September to the 12th of December, the team - Andrea, Henrique, Margarida, Ms. A, Ms. B, and Ms. F, a Nova SBE Venture Lab member - worked together at the NOVA SBE's Venture Lab on the theme of "University Students". The team believed it had the biggest room for improvement in the Bank. During the project, the team designed specialist roles for part of the thesis: Margarida was titled as a specialist in the Front-End Development, Andrea in the Back-End Development and Henrique in the Recommendations. Nonetheless, all aspects of the project had help from all members, with the other members of the team providing a supporting role on each chapter. The project was developed together with students and Bank Executives, while this Work Project was made by the students alone. This thesis serves as a report of the work developed in the Innovation & Entrepreneurship Field Lab of Fall Semester 2018/2019.

Abstract

Banking related topics have always been out of interest for the Portuguese university students segment. This segment has very limited need for traditional bank offers and therefore has always been disconnected from the industry. Banks have been trying to reach the segment, by providing short-term benefits and marketing campaigns focused on creating new accounts. This approach has proved unfruitful, as students see the lack of customer-centered offers and do not identify with banking as a whole. Thus, they close their accounts shortly after they open them, roughly half closing the accounts before they are finished with higher education. Banks need to, therefore, change its image and offer on the university students' segment in order to become more relevant. The aim of this Work Project is to design a long-term customer-centered product which is connected to the real needs of university students, while providing value to the Bank.

Keywords: Innovation, Validation, University Students and Banking

Table of Contents

1. General Overview	4
1.1 Introduction & challenges	4
1.2 Aims and objectives	5
1.3 Work Methodology	6
2. Diagnosis	9
2.1 Situation analysis	9
2.1.1 Internal analysis: Bank Y as it is	10
2.1.1.1 Organization	10
2.1.1.2 Current Business Model	11
2.1.2 External analysis	12
2.1.2.1 Context & Trends	12
2.1.2.2 Industry players	17
2.1.2.3 Demand side	22
2.2 Opportunity Analysis	24
3. The Front-End of Innovation	26
3.1 Theoretical Background & Literature Review	26
3.1.1 Value Proposition Canvas	27
3.1.2 Design Sprint	29
3.2 Analysis: Designing and testing a prototype	30
3.3 Internal conclusions	36
4. Back-End of Innovation	37
4.1 Theoretical Background & Literature Review	37
4.1.1 The Lean Startup Methodology	38
4.1.2 Business Model Canvas	39
4.1.3 Customer Development Process	40
4.1.4 Validation board	41
4.2 Analysis: Validation of business model blocks	41
4.2.1 Phase 1: Customer Discovery	42
4.2.2 Phase 2: Customer Validation	50
4.3 Final Business Model Canvas of Flow	54
5. Recommendations	57
5.1 Answer to “Can Bank Y retain students as clients after they turn 26 years old?”	57
5.2 Implementation Plan for Bank Y	59
5.2.1 Improvement Opportunities	59
5.2.2 Action Plan	61
5.3 Possible Impact for Bank Y	62
5.3.1 Market Size	62
5.3.2 Key Performance Indicators	63
5.3.3 Cost Drivers	64
5.3.4 Financial Predictions	65
6. Limitations	67
7. References	68
8. Appendices I	70

1. General Overview

1.1 Introduction & challenge

A lot has been going on in the banking industry since the year 2000 BC when the first practice of safekeeping appeared before becoming common among human beings (Awosika, 2017). Banks have evolved over time from the temples of the ancient world into our century. However, their primary function – issuing a credit to people who need it by asking an interest for the repayment of that credit granted- remained the same (Beattie, 2018). What has been changing instead are the customers' behaviors, especially today in an increasingly digital world, where consumers can count on sophisticated technologies to perform their daily practices. Technologies improvements have disrupted many industries, including the banking sector. Opportunities born along with it, such as the improvement in the service due to Artificial Intelligence, the more security service due to Blockchain technology or the improvements on the customer's relationship due to the data analysis. However, there are many other issues that are reshaping the financial services landscape, namely the regulatory playing field, new competitors, and rapidly evolving customers' expectation. On one hand, global instability has imposed new regulations and fiscal pressures that companies must have to adapt, such as PSD2 regulation. On the other hand, companies must have to plan their strategies to transformation in order to redefine the customer definition and their business model in line with the new competitive environment.

Innovation is the antidote for traditional banks to stay competitive against non-banks. The disruptive technologies have led to the rise of new small players within the banking ecosystem, the so-called non-banks. One example of that are FinTechs that offer exactly what customers look for and expect: intuitive and quick service, digital-friendly options and low prices (team own analysis). In this way, keeping up with customer expectations and attracting new ones is undoubtedly one of the major banks' challenge, and therefore for Bank Y as well.

Bank Y needs to adapt fast to such a competitive environment, by predicting and anticipating the future customer behaviours and preferences.

Bank Y has a strong position in the Portuguese market, being the second largest private bank in Portugal with a market share of 15%. Currently, Bank Y has been investing its resources and capabilities in innovation and young customer segments, as a value innovation strategy which creates a leap in value for buyers and the company, opening new and uncontested market space (Kim Mauborgne, 2009). Being present in 53 universities across Portugal, Bank Y has been attracting several students to open an account in the university life stage, providing free commissions and fees, as well as discounts. However, the approach adopted has not been as effective as they thought since at least 40% of students close their accounts before start paying (26 years) mainly due to the unfavorable Bank Y perspective and relationship (team own analysis). This situation led the team to focus on answering the challenge of: *“Can Bank Y retain students as clients after they turn 26 years old?”*

The following thesis aims to develop a new concept that solves this challenge and generates a low-risk revenue stream for Bank Y while keeping the strong customer base in the long-term instead of just in the short-run.

1.2 Aims and objectives

As previously explained, the banking sector, in general, will have to face numerous changes and be able to rapidly adapt to the always evolving society. For this reason, the following work project aims to develop a new concept to present to Bank Y for it to be placed in a more competitive position in this landscape. Hence, three objectives were defined, wherein the first stage consists of analyzing the current solutions, players and challenges facing the banking sector, namely when tackling the University Students demographic, a second stage where the team must find an opportunity, test and validate it to the customer’s ever-changing

expectations and finally a third stage where the team must look for a working business model to propose to Bank Y to implement.

1.3 Work Methodology

In order to develop the work project, the team passed through three different stages that consisted of **(1)** analysing the banking situation and detecting opportunities, **(2)** design a prototype and, lastly, **(3)** searching for a scalable business model for giving hints how to implement the recommendation to Bank Y.

The first phase, called diagnosis, aims to gather insights of the business environment of Bank Y and with that information and by doing an exploratory research, identify possible opportunities within the market. For that, the first step is to analyse the internal and external factors that have the strongest impact on the market as well as on Bank Y. To conduct the external analysis, the Project Blue framework was chosen to get a better view of the macro-environment and trends, and a player's analysis based on the Blue Ocean strategy tool. On the one hand, the Project Blue analysis helps to assess future trends for financial services by adapting and planning for transformation. The tool explores seven core issues that are reshaping the competitive environment for financial services businesses worldwide and transforming the consumers' behaviors. However, the team framed with four trends: global instability, demographic changes, technologies change, and social and behavioral change. An "Impact/Uncertainty Grid" tool has been used to rank a concise cluster of relevant factors and critical uncertainties surrounding retail banks. On the other hand, the player's analysis helps to define the banks' position in the market in terms of its market shares, innovation options and university students focus. In addition, it was conducted a Blue Ocean Strategy that compares Bank Y with the industry average in order to understand what the banks' competitive advantage and the future opportunities are. On top of performing desk research, the team also collected quantitative and qualitative data regarding the customer segment.

Interviews to high-school, university students and recently graduated as well as meetings with both Bank's experts and Universities' Staff were done in order to define the customer journey, its pains and gains, to later find out eventually new opportunities.

After taking some conclusions of the business environment and the problem statement, the goal was to analyze how can Bank Y effectively retain students. This phase lasted eight weeks and was divided into two different approaches: front-end and back-end of innovation. A theoretical background and a literature review have been made in order to support the methodology used to reach the objective. In the front-end innovation process, the team has used the Value Proposition and Design Sprint Methodology. In the back-end process, it was used the Business Model Canvas, Customer Development Process and Validation Board.

Afterwards, between 15th to 19th October, the team entered in the Sprint week, the ideation moment, where the main objective was coming up with a new concept that answers to the challenge faced by Bank Y and solves the needs of the customers. Maps that list the threats, questions, and assumptions associated to the long-term goal of the Sprint are examples of design thinking techniques that the team used to identify the best solution. In the last day of the sprint week, the idea had already turned into a prototype and was ready to test with five potential students' customers. The goal was to validate, or not, the different assumptions developed during the Sprint.

Then, once already in the back-end of innovation, the team was ready to build an initial Business Model Canvas for the concept developed during the Sprint and validate the hypotheses conducted for each building block, prioritized according to the Osterwalder methodology. By following the Customer Development method, the process was divided into six cycles: four for the Customer Discovery and two for the Customer Validation. Interviews and an online survey were used as an experimental tool to confirm the assumptions developed in the Validation Board. For that, a minimum success criterion (MSC) was used to track the

outcomes achieved in the cycles in terms of validating, or not, the hypotheses. In the Customer Discovery, which lasted four weeks, the goal was to reach a problem/solution fit after having tested and validated the problem identified for the customer segment and designed a solution for it. Hence, three concept boards were designed by the team as well as a Facebook group to accomplish that. Finally, during the two cycles of Customer Validation, the team went deeper into the validation of the solution and value proposition as well as the customer relationship to collect the evidences needed to reach a product/market fit. Thus, several hypotheses were generated and a Landing Page through Wix has been created by the team in order to test the hypotheses. Therefore, various features were developed for the product, by testing which ones would have been implemented eventually into a Minimum Viable Product¹. Hence, to deeper understand the insights received from customer segments about features and user friendliness of the product, the team used the Google Analytics tool as well as cold calls. The purpose of this experiment was to collect better evidences and insights about the product and not to detect the statistical relevance.

The last phase of this work project presents the final solution developed during this semester and provides an implementation plan and impact analysis for the Bank. For the recommendations, all information gathered from the customer segment, Bank experts and University staff were used to advise on possible improvement opportunities and implementing the final solution. A 1-year action plan was designed following the 3M methodology which provides knowledge regarding the capital (money), human resources (men) and time (minute) needed to perform each activity. What follows is an analysis of the market, using the TAM, SAM, SOM methodology to determine an accurate prediction of the obtainable market for the Bank with the implementation of the solution. Afterwards, a series of Key Performance Indicators were listed, in order for the Bank to keep track of the implementation of the

¹ Minimum Viable Product, or MVP is the most scaled down sellable product, with just enough features to make the product unique and validate its assumptions

solution and identify activities to fine-tune. Additionally, the main cost drivers of the implementation were outlined. Finally, a financial model was created using the information explained in the previous sections to determine if the project is financially viable. For this, the Net Present Value and Payback Period methodologies were used. In the Table 1 are summarized the methodologies used during the Work Project.

Table 1. Summary of methodologies followed in the Work Project

Phases	Objective (why?)	Method (how?)	Tools	Main activities (what?)
Diagnosis:				
Situation Analysis	Analyze the current situation of Bank Y	Desk research	Project Blue, Impact/Uncertainty Matrix, Concentration Ratio, Blue Ocean Strategy, Positioning Map	Internal and external analysis
Opportunity Analysis	Detect an opportunity to exploit	Desk & exploratory research	Interviews	Students, Bank's experts and University staff interviews
Analysis:				
Front-End of Innovation	Create a validated prototype	Design Sprint Methodology	Design thinking techniques, Interviews	Formulating, developing and testing a prototype
Back-End of Innovation	Turn the new concept into a business opportunity	Customer Development Process	Business Model Canvas, Validation Board, Interviews, Online survey	Validation of the business model blocks
Recommendations:				
Implementation plan	Propose a solution and explain how to implement it	Desk research and insights from the Bank.	3 Ms tool (Money, Men, Minutes)	Recommendations, Improvement opportunities and Timeline
Impact	Measure the potential impact for Bank Y	Desk research and insights from the Bank.	TAM/SAM/SOM, Net Present Value (NVP), Payback Period	Impact assessment, Financials, Key Performance Indicators

Source: Team own analysis

2. Diagnosis

2.1 Situation analysis

In order to answer the challenge “*Can Bank Y retain students as clients after they turn 26 years old?*”, it is essential to perform both internal and external analysis. Throughout the desk research, the team will have a clear picture of the Bank current business environment, thereby identifying opportunities and threats that influence Bank Y's and that can add value when answering the problem.

2.1.1 Internal analysis: Bank Y as it is

In this next section, an internal analysis is made to better understand Bank Y's current situation. In order to do so, the team will look into how the Bank is structured and how it is been trying to innovate over the years into the organization. Additionally, an analysis of how the Bank Y's current business model works, delving further in the university students segment will be done on the current Business Model section.

2.1.1.1 Organization

Bank Y is part of one of the biggest financial service holding groups in the world and one of the largest banks in Portugal, presenting top results in revenue, net income, and total assets. It has been performing outstandingly well when compared to other banks in Portugal, especially during the economic and financial crisis the country went through, due to its strategic position and focus on stability and sustainable growth. It currently claims to be Portugal's most profitable bank, as well as being the country's biggest private bank (Bank Y's holding group Annual Review, 2017), having reported very positive results in market shares growth in the past years. However, a note must be made that in Portugal, some of its current market shares rapid growth can be explained by the several acquisitions of smaller banks, namely Banif in 2016 and Banco Popular in late 2017, who had been struggling during the financial crisis.

The bank has been making a push for the digitalization of its brand and services, focusing on innovation, digital transformation and best practices as some of its core values (Bank Y's Investor Relations, 2017). However, the team believes the approach of the Bank is more reactive in most of its innovation than disruptive, by creating new products and services as a way to stay aligned with competition, rather than trying to lead the sector in this field. This can be explained by several reasons, such as the dimension not only of the Bank in Portugal and the financial group but also the culture itself of the Bank. Even though Bank Y's culture has been on a trend of change, it still feels the impact of the current financial crisis.

More related to the topic at hand, the Bank feels their efforts to attract university students have worked to an extent, but the retention of these clients has not been working well. The bank executives believe this customer segment does not share much interest on the topic of banking and chooses according to the best conditions and ease (Bank executives' feedback).

2.1.1.2 Current Business Model

Bank Y provides a wide range of services to its clients, aiming to provide services and products that will cater to all of their clients' financial needs. It offers services such as long-term savings accounts, structured products, investment funds, debit and credit cards as well as loans and insurances. Its main generator of profits is net interest income. Additionally, it generates profits from commissions and fees charged on every product and dividends earned from equity instruments.

On its retail banking, the Bank provides a customer segmented approach to business by providing "tailor-made" products to its defined customer segments. It has currently six customer segments: mass market, SELECT premium market, university students, juniors and teenagers, Portuguese citizens living abroad and non-Portuguese residents (Bank Y website).

Focusing on university students, the team conducted some interviews with Bank experts, from which it became clearer what are the current approaches used by Bank Y to attract such target, as well as the biggest difficulties in doing so. Nowadays, the Bank provides an account exempt of fees until the client is 26 years old, as well as some discounts that can be helpful for the life of a student. Moreover, the bank has been focusing a lot of its resources on the university student segment in recent times. It currently approaches in two very different ways. Firstly, it acts as a patron, by establishing partnerships, donating money and sponsoring projects in universities. This includes the 1,150 scholarships it has given and the more than 300 projects it has supported in the last years. This approach is very important in order to establish a relationship between the universities and the Bank, and so far, it has resulted in 53

different universities creating a partnership, which provide to Bank Y exclusivity for the banking services on campus. Secondly, Bank Y is present in the first week of registration creating the student cards for each student and simultaneously offering the creation of a bank account free of charge. This second approach has a more tangible result, with the number of accounts opened every year during this period being close to 21,000 (Bank Y data, 2018). The digitalization of the process of registration and account creation at universities greatly increased the number of accounts created, as it made the process easier and quicker. However, the number of accounts opened throughout the rest of the year is minimal, since there are no more interactions between Bank Y and students. Although they provide many benefits for students, such as scholarships, discounts or internships, the efforts in communication are not enough to make students aware about these opportunities. By the time they are finishing their courses, roughly 40% of the students have closed their accounts (Bank Y's executives). Additionally, a big percentage of those who remain open provide very little value for the Bank, as experts believe that for the short years after their studies, the number of accounts closed sharply increases (information shared by experts, as this data is not officially tracked by the time of this project). Overall, the bank invests close to 6 Million Euros in this segment every year, with roughly 90% of this investment belonging to its patronage campaigns.

2.1.2 External analysis

To better comprehend the context in which Bank Y operates, the team first considers the macro-trends that are transforming the global financial landscape by analyzing the most powerful forces that has been impacting the banking industry. Then, the team analyzed the competitive environment by defining the position of the key industry players.

2.1.2.1 Context & Trends

A Project Blue Framework was developed to identify the main issues that should be addressed by the Bank Y in order to adapt to global instability and plan effective strategies that respond

to the current transformations such as customers’ behaviors and government policy. A customized framework that suits effectively in the Portuguese market was made. Analyzing the relevance of each macro-trends, the team has studied, in depth, four major trends that have a significant influence on the retail banking industry and thus, Bank Y: the rise of the global instability, the demographic changes, the disruptive technologies, and the social and behavioral change. The major challenges that the banking industry have been subject to are the uneven regulatory playing field, the rapidly evolving expectations, the retail digital customer experience and the new competition. In each category, the forces that have the highest potential impact and uncertainty in the banking sector are in bold. These will be aggregated by category, while the remainder of the forces will be explained in Appendix I.1. The fundamental external drivers are summarized in Table 2 and the Impact/Uncertainty Matrix can be consulted in Appendix I.2.

Table 2. Project Blue framework for Portugal

Adapt	Global instability		
	Regulatory environment	Fiscal pressures	Political and social instability
Plan	Demographic change	Immigration Individual life expectancy	Ageing populations Families’ structure
	Technological change	• Disruptive technologies Cybersecurity	Rise of BigTechs and Fintechs Artificial Intelligence
	Social and behavioral change	Change in consumers’ behaviors Consumers’ expenditures	Urbanization Customer-centricity
	Rise and interconnectivity of the emerging markets	Political and economic uncertainty Emergence of megacities	Trade
	Rise of state-directed capitalism	State intervention Foreign investments	Distrust of major stakeholders
	War for natural resources	Climatic changes and sustainability Natural disasters	Green environment

Source: PWC, 2014 and team analysis

Key Factor #1. Global instability: Despite the complex and uncertain global economic environment, the Portuguese financial market is also focusing on redefining their strategies and business models to retain the competitiveness and to adapt to the new circumstances. However, the instability - at the political and social level, in the regulatory environment and in fiscal pressures - is a meaningful challenge faced by the banking industry. The Portuguese

banking system is still recovering from the last shocks: the deep economic recession due to the global financial crisis, the regulatory revolution, the reputational fall of banking provoked by the BPN and BES cases and the digital and behavioral revolution (Negócios, 2017). Moreover, there are many other political phenomena that have been affecting the banking sector, such as the U.S. presidential election in 2016 and Brexit in 2017. Although the clear improvement, regulators aimed to ensure financial stability by rebuilding the sector and protecting the financial users and society. For that, the European Union has been imposing new regulations, such as GDPR (General Data Protection Regulation) or PSD2 (Second Payment Services Directive). Most of these rules aimed to protect users' Data, which is currently the biggest asset for companies. However, banks are facing consequences of European Regulations such as PSD2 that originated a new era of 'Open Banking', which allows third parties to connect directly to customers' banks accounts via a standardized interface (Bond Dickinson, 2018). As a result of this directive, banks are now forced to provide customers' account information and payment services to third-party providers through their application program interface (API). Therefore, banks will consequently lose the 'monopoly' on their customers' information. The related implementations of the above-mentioned European directive could give an advantage to more agile players (e.g. non-banks), which are already offering innovative product and services at a lower price, by damaging banks' revenues. Complying with these strict rules, banks must have to redesign the organization in order to execute effective strategies that mainly face the new substitutes, the non-banks.

Key Factor #5, #6 and #7. Demographic change: One of the biggest national concern is demographic sustainability. Nowadays, Portugal has a negative natural balance of -0.37% due to the fall in birth rates and an increase in life expectancy (World Population Review, 2018). In 2017, the percentage of people with more than 65 years old were 21.3% versus 13.9% of

people with less than 15 years old. In addition, the family structure is also changing. In 2017, the average size of private households was 2.5 individuals (Pordata, 2018). These facts are important to take into considerations when adapting to the new digital and technological trends since the predominant age range in Portugal is seniors.

Key Factor #8, #9, #10 and #11. Technological change: Disruptive technologies are transforming the world, society and business, in unpredictable ways. New technologies have emerged in the past years that are reshaping industries, changing customer behaviors and transforming operating models and organizational structures. Technology represents without any doubt the main driver of change, which is already shaping the present scenario of the banking industry and will definitely keep playing a significant role in the future. In the digital world, there are some technologies that are already well established such as the Internet, mobile phones, cloud, and data analysis. However, across all sectors, there is still a long way to go. Companies are seeking new opportunities that reduce costs, improve customer journeys throughout the analysis of customers' data and create competitive advantage while using digital innovations. The banking industry has pros and cons when it comes to technological development. The technology launched new competitors, redrew industry boundaries, redefined the nature of currency, increased the risk of cybercrime and changed regulation but, it also offers a valuable opportunity to engage more closely with younger and affluent customers, design new services and expand around the world. Additionally, with the technology development arose a revolutionary technology, Artificial Intelligence. There are many banks investing in this new opportunity by letting machines learn, adapt and improve the service, adding value to the business and its customers (Sennaar, 2018). There are three main issues that the banking industry is exposed to: Blockchain technology, Non-banks, and Cybersecurity. Blockchain is a decentralized technology and it has high level of uncertainty and no one can predict its impact yet. The non-banks, so-called BigTechs and FinTechs, are

shaping the banking industry and, growing and gaining share of mind with customers at a high speed (Oliver Wyman, 2018). The secret recipe behind FinTechs' success is based on their customer-centric approach and their ability to serve better and faster specific customers' needs. The expectations of banks in the customer's minds are changing, what they are looking for is easiness, transparency, speed, and accessibility, which does not really meet the customer's perception of banks nowadays (Accenture, 2018). Behind the reasons why customers are switching banks, there is a better customer service, as well as better online banking capabilities or services (G. Associates, 2016). Cybersecurity concern is rising with technology improvement, compromising privacy and security. Hackers are entering in companies' systems and stealing information often without leaving a trace and no one can stop it (CNBC, 2018). These improvements are disrupting the whole banking environment and, if banks want to survive, they need to answer and adapt faster to these changes.

Key Factor #12 and #15. Social and behavioral change: Customers are more connected than ever before. The demographic boundaries that limited society before was made irrelevant with an increase of the globalization effect. The digital transformation changed the way people interact and shifted their preferences and behaviors. The new generation is more informed and empowered, which allows them to compare products or services for obtaining the best customer experience, based on quality, convenience, and a quick and personalized service (Ulwick, 2005). To get a competitive advantage, companies should create a powerful relationship with its customer, by focusing on its customer satisfaction and orientation. Because of that, companies are shifting from product-centric to a new approach, the customer-centric in which the goal is to keep the customer's viewpoint and develop their strategies around it (Limena, 2018). Customer trust is key to success and in the banking industry, it has been difficult to achieve. A study reveals that one of the institutions that the Portuguese people trust the least is Banking (JN, 2018). The main reasons are the financial crisis and

issues of privacy and security. This means that banks should follow the customer-centric approach to reinforce the relationship with its customers by focusing on trust and security.

Other Factors: There are still some aspects that are influencing the banking sector. However, the team identified them as less determinant for the existence of the banking industry in the future as they were the ones with the lowest level of impact and uncertainty. (Appendix II.A).

2.1.2.2 Industry players

In the next section, an analysis of the traditional banks that operate in the same environment as Bank Y as well as non-banks (e.g. FinTechs and BigTechs) will follow, to further understand in detail the banking ecosystem in Portugal and its competitive environment.

2.1.2.2.1 Retail Banks

A Concentration Ratio (CR) has been considered as a measure of industry concentration. Although there is a remarkable number of retail banks in Portugal, five of them are among the biggest players within the Portuguese banking industry: Caixa Geral de Depósitos (CGD), Banco Português de Investimento (BPI), Banco Santander Totta (BST), Millennium Bcp (BCP) and Novo Banco (NB). As shown by the data in Appendix II.B, the top five banks in the market together account for more than 60% of total market shares, that is why the Portuguese banking market seems to have all the traits of an Oligopoly² (Investopedia, 2018).

Caixa Geral de Depósitos (CGD): It represents the largest financial institution in Portugal that is owned by the state with total assets of 96 billion euros registered in 2017 and a market share of 24% (CFI, 2018). Although the investments in the university students' segment, this bank is still far from being an innovative and digital bank. Currently, this bank is present in many different universities in order to serve the university students during the whole academic life (e.g. discounts, resident card in foreign countries, student card, among others). In 2017 CGD had 50 cooperative agreements with the main Portuguese universities and

² Oligopoly is an industry dominated by a small number of large players that hold most of the market shares.

polytechnics (CGD, Annual Report, 2017). Furthermore, CGD being a state-owned bank, is focused on keeping its market share and its reputation, instead of dedicating resources in innovation (CFI, 2018).

Banco Português de Investimento (BPI): It is a privately Portuguese bank, owned by a Spanish bank institution called La Caixa, accounting for a 10% market share. Its presence apart from Portugal and Spain is spread across different countries such as Mozambique and Angola, where it is considered a market leader in corporate banking (CFI, 2018). BPI does not have a strong focus on university students or innovation.

Banco Santander Totta (BST): Former Banco Totta & Açores and Banco Totta lately, it was acquired by the Spanish Santander group, and eventually changed its name to Banco Santander Portugal. In terms of total assets, it represents the second largest private bank in Portugal with a market share of 15%. It has been awarded as Best Bank in Portugal by Euromoney and the safest in Portugal by Global Finance (CFI, 2018), but also the only one that registered positive results since the financial crisis in 2008 (Wise, 2018). BST has mostly focused its investments on innovation and young customer segments, being present already in 53 Higher Education Institutions across Portugal (BST Annual Report, 2017).

Millennium BCP (BCP): It is a Portuguese bank that was acquired by a Polish bank. With a total asset of 72.67 billion euros in 2017 and a market share of 16%, it is considered one of the largest private banks in Portugal. The bank is very focused on the young customer target; indeed, they invested many resources by trying to offer them tailored services as Millennium Go and ActivoBank above all.

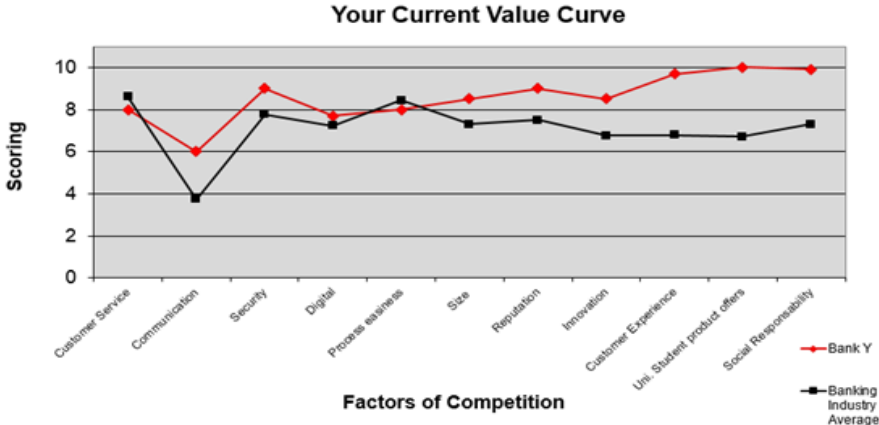
Novo Banco (NB): Formerly known as Banco Espírito Santo, it was introduced in 2014 and today it is one of the leading banks in Retail and Private Banking in Portugal. It has a market share of 13% in terms of total assets, 10.9% in customer deposits, while a 18.3% in corporate

loans and 11.6 % in cards (Novo Banco, 2017). Novo Banco is focusing most of their resources on digital user-friendly products.

In order to have a better understanding of the overall focus of the competitors of Bank Y, a positioning map was drawn by the team (Appendix I.3). It is clear that Millennium and Novo Banco are the most innovative banks, focusing most of their resources on digital user-friendly products, while BST has mostly focused its investments on the university student segments. Furthermore, CGD being a state-owned bank, is more size and reputation oriented. Lastly, BPI does not have a strong focus on young customers or innovation.

Jointly with the positioning map, the team decided to complement the industry analysis by making use of the Blue Ocean Analysis, and particularly, the Strategy Canvas, which can be observed in the Table 3. The tool allows to have a deeper view of the current competitive landscape of Bank Y, and to better visualize which are the factors that the banking industry competes on and where the competitors are currently investing in, as well as future outlooks for an organization (Blue Ocean, 2018). Bank Y is building a competitive advantage over its range of product and services designed specifically for the university student segments, as well as on customer experience and social responsibility. However, Bank Y has still a long way to go if it wants to keep such competitive advantage in the long-run, since the students' retention rate after they turn 26 years old is low and the product range's communication is clearly insufficient considering that students are not aware of its offer and benefits.

Table 3. Blue Ocean Analysis – Strategy Canvas



Source: Insights from Bank Y and Team own analysis

Competitors are missing to see these opportunities; hence, Bank Y might exploit this unawareness in order to differentiate its value proposition, by establishing a business model based on customer experience, university student product offers and social responsibility. Bank Y could be able to create and capture new demands for those three factors, and thus in that way, create a differentiation strategy that will enable the Bank to stand out from the competition. For a further and deeper comparison on each single player strategy focus, it is advisable to consult Appendix II.C.

2.1.2.2.2 FinTechs and Non-banks

As it was explained before, the traditional banks have been challenged by the rise of new digital players. These new competitors are threatening the business models of traditional banks, by providing faster and easier services, offering a better customer experience through digital interfaces and charging users low fees in a transparent way and cutting the costs (Cb insights, 2018). Traditional incumbents are still far away from offering smart and customer-oriented solutions, while FinTechs have built their core businesses around customers (Pwc, 2016). These characteristics have disrupted the whole financial system and leveraged customers, mainly Millennials (Fintech Finance 2018). Furthermore, the new European Regulations have clearly given room to grow to the new players as it was explained before. Since 2014, particularly in Europe, these new digital players have been attracting over 2.5M of customers and \$1B in funding (Cb insights, 2018). A remarkable example of the most well-known ‘small players’ are offered by Monzo, Atom Bank, Revolut, N 26, Starling Bank as it can be seen in Appendix I.4. In the Table 4, an overview of the main innovative FinTechs that are threatening the Bank Y was depicted.

Table 4. Overview of the main innovative FinTechs competitors of Bank Y

FinTechs	About	Technical Features
N26	It is a German direct bank, it is considered one of the most promising FinTechs.	<ul style="list-style-type: none"> ● Withdraw cash from any ATM with no fees ● Instant account management and security

		<ul style="list-style-type: none"> • Real-time notifications • Open a bank account in 8 minutes online
Starling Bank	Is another mobile-only digital bank, founded in 2014 in UK. Member of the FSCS (Financial Services Compensation Scheme) so up to £85,000 is protected. It has a customer support team are on hand 24/7 anywhere you are.	<ul style="list-style-type: none"> • No fees on electronic payments, domestic transfers and monthly account fees. • Spending Insights feature: helps you to save. • Instantly set up standing orders and payments, and manage Direct Debits • Easily connect with the digital wallets
Monzo	It is a digital, mobile-only bank based in UK, founded in 2015 has 300 employees. It has more than 500,000 clients. It is part of the FSCS, so your money is protected up to £85,000.	<ul style="list-style-type: none"> • Set spending targets • Withdraw up to £200 every 30 days for free • Pay people in seconds via Bluetooth • Send money abroad • Freeze or unfreeze your card if you lose it
Revolut	It is a mobile digital bank based in London. that was founded in 2013, they have more than 2M customers all around the world. It includes a prepaid debit card, cryptocurrency exchange, peer-to-peer payments and currency exchange. It takes few minutes to open a bank account.	<ul style="list-style-type: none"> • Built-in budgeting • €200 a month in international ATM withdrawals for free • Send and request money in seconds • Set up recurring payments • Location-based security • Choose from cryptocurrencies

Source: Team own analysis; Revolut, Monzo, N26, Starling bank

Nevertheless, Portugal also has experienced a significant development within the FinTechs context. The areas of focus for the Portuguese FinTechs are mainly based on payments, lending & credit, crypto and blockchain, which have seen a significant growth especially in the last few years (Portugal FinTech Report, 2018). Among the top 25 Portuguese FinTechs, there is one worth to mention as UTRUST. Founded in 2017, it is strongly focused on blockchain & cryptocurrency, considered the world's first cryptocurrency payment solution to offer instant transactions, buyer protection & crypto-to-cash settlements (UTRUST, 2018).

Although the strong impact that these non-banks have been having, the future scenario and how will evolve in the next years is not clear yet. It is true that traditional banks have been harshly challenged by these new digital players, nonetheless the non-banks can also present a positive opportunity to exploit through strategic partnerships, since with that, banks can gain access to innovative ideas, technology and talent. An example of that is the Deutsche Bank case which already demonstrated to be open in cooperate with FinTechs - especially regarding digital payments solutions - extending payments to non-banks as WeChat, AliPay and PayPal (FT, 2018). Following this example, around 82% of incumbents are expecting to increase their relationships with FinTechs in the next five years (PwC, 2017). Nevertheless, the threats

for traditional banks are not only represented by FinTechs, but also by Global Tech Giants as Amazon, Google, Apple and Facebook, which are entering the Financial Services market (World Finance, 2018). A strong customer base is one of the strongest starting points for these Tech Giants, which do not need to be advertised in order to be known among customers. Regarding the payment services, many mobile applications have been flourishing in the last years such as Apple Pay, Alipay, Google Wallet, among other threatening more and more Bank Y. Most of the strategies adopted by such Giants are focused on Mobile and Digital, by offering young customers better retail banking financial services as faster payment options, savings accounts, current accounts, loans and credit cards. Google, already offers peer-to-peer payments options through Google Wallet, as well as Facebook via Messenger, which now provides also international money transfers with Transferwise (Wup, 2018). Through the Appendix II.D, it is possible to understand that outcomes have shown as across many developed countries, consumers surprisingly have demonstrated to be more than willing to try financial products offered by technology-established firms.

2.1.2.3 Demand side

After figuring out what are the current banking context and the supply side, it is missing the demand side that looks for the most important stakeholder, the customers. Bank Y must have to understand the customer's needs, pains, and gains to better serve the customer segment. The team believed it might prove useful to interview also high school students (10 interviews done) and recent graduates (9 interviews done), to better understand the transition phases a university student goes through when entering and leaving university. In addition, the team conducted interviews with three people from the student office of different universities to have a different perspective of the students' problems regarding the Bank.

Initially, the team hypothesized that each field of studies would have specific jobs, pains and gains. However, from the interviews made with university students, the team could not

validate any segmentation of this sort. In fact, regarding their approach to banking, all university students seemed to be very absent-minded on the topic, most having several bank accounts due to the easiness to open them, but little use for each one. Typically, the students would mainly stick with the bank of their parents, however, of those that do not have any previous bank accounts, overwhelmingly the account they used was the one that was being advertised at the registration stands on the first day of classes. Overall, students that open an account in the first days of university create a negative image from the bank due to its lack of transparency about need of open account to have the student card and about discounts. A student's financial needs are very limited, and complex financial products prove to be of no use for a common student.

The interviews to high school students and recent graduates proved helpful not only to understand how high school students see their next phase of their lives, and how they prepare for that, but also to understand the future needs of current university students, and the troubles they will go through after they end their studies. In high school, the team found that a main problem for the segment is a lack of preparation and information about their close future. Most students rely on their parents to decide on their courses, and their preparation is limited as they are not sure about the specific university they will study in. Therefore, these students tend to be nervous and unprepared when it comes to the first days of university life. In the Appendix II.E can be seen the two customers profile identified within this segment. Regarding recent graduates, the transition from university student to an independent adult presents itself as a shock which students are not aware of beforehand. However, the team realized that the major difference is in the perception when it comes to financial aspects. When they start working, they are finally more independent, but also have more responsibilities and lack of time to enjoy life as before. When it comes to banks, they just want the cheapest, more digital and innovative, that takes less time in opening accounts or

helping to solve some doubts and flexible in terms of hours and channels. Afterwards there is a moment in their life that the bank decision-factors change and that happens when they start caring to buy a house, a car or even save money for their children. At that moment, they look for the most trustful bank and the one with the lowest interest rate. In the Appendix II.F, it is possible to see in detail the difference between these two customer profiles.

2.2 Opportunity Analysis

After analyzing the internal and external factors that have the most impact on the banking industry, the team was able to detect opportunities to exploit.

Internal: The size, the resources and capabilities, and the brand reputation, as well as the high profitability, are the major strengths of Bank Y. However, there are some aspects of Bank Y that are not being used effectively, such as the communication and the university students' approach. Bank Y has a poorly communicated offer which means that although the several benefits and advantages provided to its clients, students are not aware of them or do not know how to exploit them. This can be seen as a weakness since Bank Y makes efforts and spends money on having that but in an ineffective way, which means that they will not have the positive outcomes as they should, namely engage and satisfy its customers. In addition, Bank Y focuses purely on the number of accounts opened per year. It does not do any type of benchmarking of solutions, or customer research. Bank Y is very results-driven which might explain the lack of engagement it has with university students. The short-run approach is stronger than ever, however, in long-term, since there are no relationships established, students tend to close their accounts.

Context: The desk research showed that the overall banking sector is facing major changes. The stability and profitability of older times are no longer possible, and the upcoming policy changes force all major banks to adapt and designing new products that can compete with new players on the market. The digitalization era has changed customer needs and

expectations, switching the focus to products that provide a good accessibility, quickness and convenience. However, the technology's improvements allow companies to analyze customer data and develop more customized services to satisfy customers.

Industry players: As previously explained, the banking competitive environment is changing: there are new players with powerful capabilities and resources that are reshaping the competitive landscape. FinTechs are gaining traction and presence on the market, as they can provide more specialized services with lower fees and commissions. This has exposed a new threat on traditional banks: where before, a big financial institution would be a sign of safety now can be seen as a sign of stiffness and orthodoxy; a lack of innovation and change.

Demand: Overall, students have a negative impression when it comes to banks, and Bank Y is not an exception. However, students have many similar needs that can be fulfilled. Therefore, the bank has an opportunity: offer a non-financial service that goes in line with one of the students' common needs.

To sum up, although the current Bank efforts are not effective, the Bank Y has the necessary resources and capabilities to change something and to build upon their competitive advantage. Since Bank Y's environment requires and enables the Bank to provide a more targeted offer to satisfy non-financial needs for students, the Bank has an opportunity to retain students. Throughout the next two chapters, it will be explained how Bank Y can exploit this.

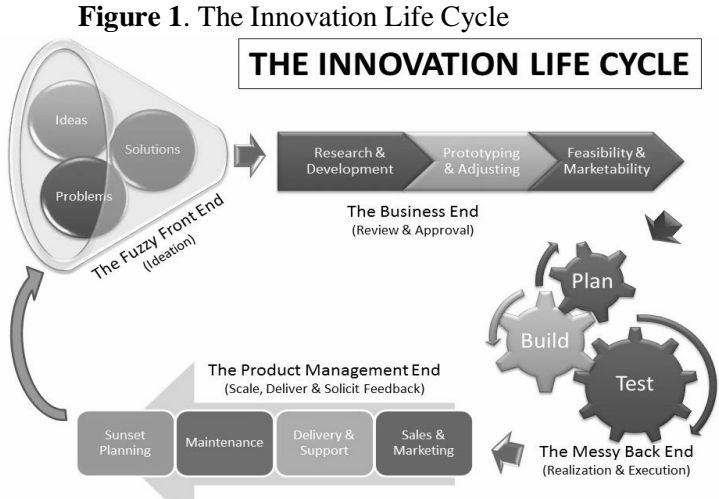
3. Front-End of Innovation

3.1 Theoretical Background & Literature Review

The etymology of the word innovation lies its origin from the Latin '*Innovatio*', that in turn comes from the action of '*innovare*', which means 'to renew or change' (Online Etymology Dictionary). The definition of innovation therefore, as it is perceived today, is a continuous process that involves multiple activities to detect other new ways to do things differently (Toolshero,2018). The role of Innovation starts to become central at this stage, where a simple

and confused idea might turn into a service or product that potentially can generate value for a certain organization.

The so-called Front-end of Innovation, also known as Fuzzy Front-End (Figure 1), represents the starting point of the innovation ‘funnel’ prior to the product development process, which is often very creative and unstructured (Lead, 2018). At this early stage, business opportunities are identified and analyzed. The activities involved during this initial phase have usually an individual or team emphasis in several areas, with the purpose to minimize risks and to ensure that no potential opportunities are missed out (Koen, 2001). All these set of business activities and interactions among participants will eventually lead to the selection of only few innovative ideas, which will be taken into account for the new product development (NPD) process. The final outcome of the front-end innovation is to find a **problem/solution fit**, which translates relevant problems worthwhile to resolve into solutions with highest chances of adoption probability (IdeaHackers, 2016).



Source: John C. Maxwell, 2005

3.1.1 Value Proposition Canvas

The concept of Value Proposition Design - developed by Alexander Osterwalder and Yves Pigneur in 2014 - has been applied by the team within the work project. One of the practical tools of the value proposition design is the so-called Value Proposition Canvas, that focuses

its core value on two elements of the Business Model Canvas, which are considered to be the heart of any business idea: Customer Segment and Value Proposition.

This tool helps to visualize, design and test how you create value for your customers, by understanding the customer needs and designing products or services. It is composed by two parts: Customer profile and the Value Map (Osterwalder, 2014). The Customer Profile provides a detailed description of a specific customer segment in a business model, by listing the jobs that customers are trying to get done in their lives. Jobs can be divided in: functional as getting from A to B, social when trying to look good by impressing friends or colleagues, emotional like seeking peace of mind as well as supporting jobs in the context of purchasing and consuming value as professionals or as consumers (Osterwalder, 2014). Although not all jobs have the same relevance for customers, it is essential to rank them based on a range that goes from insignificant to important. Secondly, pains represent the negative outcomes that customers hope to avoid before, during and after performing a job, such as risks or obstacles. Furthermore, as for the jobs, it is crucial to identify the pain severity, by ranking them on a scale that goes from moderate to extreme. Lastly, the gains are the positive outcomes that customers are seeking and hope to achieve when trying to get a job done. They can be divided in required, expected, unexpected and desired. The gains, as well as pains, need to be ranked according their relevance, which can vary between essential and nice to have.

The second part of the Canvas is the Value Map; a list of Product and Services the value proposition builds on, and are distinguished as physical, digital, intangible and financial. These products and services help customers to complete their jobs or help them satisfying basic needs (Osterwalder, 2014). Therefore, it is important to understand the degree of relevance for the product and services as well, by ranking them from the essential to the nice to have ones. Pain Relievers describe how product, services and features eliminate, reduce or minimize pains customers care about by making their life easier. As they can be more or less

relevant to customers, it is essential to rank them according to the essential ones and nice to have. Finally, Gain Creators expressly define how to increase, produce or maximize benefits and outcomes that the customers desire, expect, or would be surprised by, including social gains, functional utility, cost savings and positive emotions. Again, it is essential to ensure that they are differentiated based on the essential and nice to have ones.

A fit between customer profile and value map is achieved when a clear connection between what matters to customers and how the product, services and features alleviate pains and create gains is established (Osterwalder, 2014).

3.1.2 Design Sprint Methodology

In 2016, three partners at Google Ventures, namely Knapp, Zeratsky and Kowitz, created a unique and intense process built upon the utmost goal of reducing the risk of a company when launching a new product or service to the market by empowering any company to find out if it is on the right track. Known as Design Sprint Methodology, it is a time-constrained approach with five consecutive dynamic days seeking to address strategic business issues through design, prototyping, and testing ideas with potential customers. It helps to develop a prototype that best fits the customer needs by learning, validating and iterating. In this way, the team gets clear data from a realistic solution to any challenges faced in an organization or start-up. The five-day process is summarized in Table 5. In addition, the Sprint methodology has recommended roles for seven people: a decider, a finance expert, a marketing expert, a customer expert, a design expert, a tech/logistics expert and a troublemaker. One of the members is named by facilitator which means that he/she is responsible for managing time and the overall Sprint process. In the Table 6 is summarized the function of each member.

Table 5. Five-days process

Day	Tasks
Monday “Mapping Day”	On Monday, the main goal is to create a path for the sprint week, by framing the problem and picking an important target to focus. The first task is to define a long-term goal of the project and list the main risks, assumptions, and barriers that might prevent from reaching the long-term goal. Then, the team drew a “map” of the challenge where it is described, in a

	diagram, a customer journey. Later, the “experts” share insights of the company in order to improve the current map. Finally, the team chooses a specific and ambitious “target” for the Sprint.
Tuesday “Sketching Day”	The purpose of Tuesday is coming up with solutions. After gathering all the information of the previous day, the team will collect and review the existing conclusions and analyze what can be used to design a possible solution or if it is necessary to change or improve. This exercise is called “lightning demos”. In the afternoon, each player of the team will sketch competing solutions on paper, following a four-step process that emphasizes critical thinking above creativity. After the solution-storming, team members shared their concepts and features and then voted for the best options to work on. Then, later the week, those “sketches” shall be converted into concepts for the prototype. In addition, there will be someone responsible for recruiting potential customers for Friday’s test. That person has to use its network to find customers and should be following up to make sure he or she shows up on Friday.
Wednesday “Decision Day”	On the third day, the team will vote on the idea that then, will turn into a testable hypothesis. Choosing a unique solution is a difficult decision that needs to be presented and constructively criticized <i>à priori</i> by team members since it’s not possible to prototype and test them all. The idea chosen should be the one that has the best chance of achieving the long-term goal. Then, a storyboard is built that describes a step-by-step plan for the prototype with the winning scenes from the sketches.
Thursday “Prototyping Day”	Thursday is the day of building out a prototype based on the storyboard. In addition, the team has to ensure that everything is ready for Friday’s test by reviewing the prototype and writing an interview guide.
Friday “Testing Day”	It is time to test the product or service with a sample of potential customers. Until Friday, the team, in an impressively productive week, has created possible solutions, chosen the best and structure a realistic prototype. This day is dedicated to understanding how far the team must go, and what are the next steps through interviewing potential customers and observing their reactions to the prototype. Basically, testing if the team should go ahead, go back or pivot.

Source: Jake Knapp, John Zeratsky, Braden Kowitz 2016

Table 6. Function of each team member

Team Member	Function/ Task
Decider	A person who makes the decisions.
Finance expert	A person who understand where the money comes from and where should go.
Marketing expert	A person that know how to buy and sell products or service, including advertising, selling and delivering product to people.
Customer expert	A person that knows well the customer: journey, needs, and preferences.
Design expert	A person that designs the product the company makes.
Tech/logistics expert	A person that has engineer talent and know what the company can make and deliver.
Troublemaker	A person who usually causes problems and has contrary opinions.

Source: Jake Knapp, John Zeratsky, Braden Kowitz 2016

3.2 Analysis: Designing and testing a prototype

The Design Sprint methodology is the next phase of the project process which has been used to come up with a solution in order to tackle a problem of the customer segment, namely, university students and aligned with the banking challenge. The whole week took place at the Nova SBE Venture Lab in Carcavelos, where six team members were present: two Bank Y executives, namely Mrs. A and Mrs. B, one Venture Lab executive, namely Mrs. F being the

facilitator and three students from Nova SBE, namely Andrea Cinanni, Henrique Completo (the decider) and Margarida Vila Luz.

Monday - The Mapping Day: At 9h30 a.m., the team was ready to start an intensive week that would outline the best solution for the university students' problem. The main purpose of Monday was to set up the path of the sprint week by systematizing information and analysis made until then, illustrating a customer journey and consequently, coming up with a well-defined long-term goal.

The first step was downloading the opportunity analysis and desk research insights that the team organized by previous interactions with: Customers, Bank Y's experts and Students Office's expert. After organizing it in more sub-categories and mark the top issues, the team agreed to focus on the sub-category "purpose" of the Bank Y internal topic, which describes the Bank current objective of focusing on students: attracting students in the registration day to open a bank account. In 2018, the expected number of students for open an account is 21,000. However, when it comes to the long-term, keeping customers engaged and retaining them is hard as it is reflected by 40% of students that close their accounts in the third year of university. Afterwards, it was drawn a "map" of the student journey, by identifying interesting touch points and obstacles to overcome along the timeline between five key players: students, peers, parents, banks, and university. This illustration reinforced the team previous conclusion from existing a "crash" between the studies stage and the working stage, where accounts were being closed in large scale. Although the strong presence of Bank Y at the beginning of the university, it almost disappears during the rest of the program. This fact was visible in the few interactions as a student and the null interactions as a worker (Appendix I.5). With that, since the team verified that Bank Y has adopted a good strategy on attracting students to open accounts in the first day of university, the major problem for Bank Y was the capacity of retaining students throughout their lives. To improve that, the team focused on finding a way

to intensify the two stakeholders' relationships. According to the insights from the previous interviews, it was concluded that students are often lost, not knowing what to do. They tend to ask peers and family advice and support in their decisions. With that, it was defined as a long-term goal: "To challenge university students to become a better version of themselves", in which Bank Y will also be present in the decision-making by clarifying their doubts.

During the afternoon, three experts – Mr. V, Mr. X, and Mr. Z from different companies came to the Venture Lab to share their knowledge about university students and the best approach to reach and engage them. The team collected information regarding students' characteristics, including their pains, gains, opportunities and independence need, but also about customer relationship management, strategy approach and products and services that they value the most. The meetings were very meaningful since that knowledge helped us after to improve the map and think about where and how the Bank can add value. Through the "How might we?" questions, which turn opportunities into questions to tackle, the team highlighted four main ideas shared by the experts. The first insight was related to students' pains due to the lack of support when changing from high school to university or to work. The second one made the team understand that students value instantaneous services, and gamification is being the key to reach and engage students. Then, the third one was related to the desire of students to become independent from their parents. In this sense, there were two questions to keep in mind: *"How might we help students find other sources of revenue to their expenses?"* and *"How might we help students to be independent?"*. The fourth idea was *"How might we create a sense of community inside a larger student community?"*, latter being key in our project. With that, the team developed three main sprint questions that are described in the Table 7 that would intensify the relationship of the two stakeholders, Bank Y and students.

Table 7. Three sprint questions

Phase 1	Phase 2	Phase 3
Can we inspire students in the decision-making process?	Can we create a community of enthusiasts?	Can we break the perception of banking as it is?

Source: Team own analysis

Tuesday - The Sketching Day: The discover value day had passed. Now, the team entered in the value creation phase which means that the day was dedicated to coming up with ideas and solutions through brain-writing and brainstorming within the team and Bank Y experts in order to reach the most worth solving job-to-be-done and collected competing solutions.

During the morning, the team focused on deciding the highest potential customer profile. After discussing what were the main pains and gains of students, the team found two different types of students: the ones who plan and are aware of everything regarding university life, the so-called “Planners”; and the ones who are lazy and make decisions on short notice, called “Flow-rs”. When developing both customer profiles, the team highlighted the fact of “Flow-rs” being more susceptible to losing opportunities such as not going on Erasmus because they have missed the deadline. The team saw, in this fact, a great opportunity to play with, which was a decision-factor when choosing the customer profile to focus on. A representative of this customer segment was created by the team: a guy named João with 22 years old, a relaxed, sociable and proactive person. He tries to make the most out of his experiences, but time flies and he has a crazy agenda (studying, meeting a friend, working on a project, and so on). Most of the time, João does not stop to think on things, so he makes decisions on the spot which sometimes makes him lose opportunities and feel regrets.

In the afternoon, it was time to sketch ideas. By designing on detail João’s journey line of seventeen university decisions, it was possible to identify his major pains and gains. After analysing the whole information, the team realized the existent of a pattern in the decision-making process (Appendix II.G), where three opportunities were underlined: warning, social planning, and last-minute call, latter being chosen, based on the team own decision, the social planning to go further. Each member believed that social planning was the one that Bank Y could add more value since it was the most relevant characteristic of Flow-rs.

The next step was the so-called “Lightning Demos” that it was made in order to get inspiration. For that, the team started to individually read all the post-its and notes of Monday and search on the Internet disruptive examples to capture big ideas and get inspiration that could add value to a product or service for our target, Flow-rs.

Wednesday – The Deciding Day: Wednesday was a day to make decisions. At the end of the day, the team should have a well-defined concept that had the best chance of achieving the initial long-term goal. The first task of the day was to create a concept board building on the best option chosen the day before. In eight minutes, each team member should sketch eight different concepts related to solutions options. This tool is titled by **Crazy 8s** and its time-constraint, which means that as in all other steps in the sprint methodology, the facilitator, Mr. F. was carefully managing time to ensure a well-done performance. After presenting the solutions to each other, the team organized and clustered similar ones, having then eight different categories. The winning scene was related to having an advisor in the university decisions. During the afternoon, from this category was born two different concepts that are represented below in the Table 8.

Table 8. Concepts developed during the ‘Deciding Day’ of the Sprint

Concepts	Description
C1	A digital library platform that provides students one-minute videos of other students’ experiences.
C2	The Jungle: a random safari where students can visit different places to inspire them and challenge them to think differently.

Source: Team own analysis

When discussing the different concepts, the team added the possibility to develop the concept number one by applying one additional alternative: a personal assistant. The two concepts and the alternative feature were presented to the whole team to be voted on. The concept that had the majority of the votes was the Digital Library with the personal assistant, which basically is an option that reminds students to watch the videos, make decisions and not miss deadlines. The rest of the day was committed to designing a plan for the prototype, detailing the features of the solution and choosing a name for the product. After an individual brainwrite about the

concept's name, the elected for the chosen idea was Flow, which represents our target and comes from the expression "Go with the flow". In more detail, Flow is a peer-to-peer platform for students to share experiences in order to understand future prospects and take better university-related decisions.

Thursday - The Prototyping Day: On Thursday, the goal was to turn the concept into a realistic prototype to corroborate our assumptions with potential customers on the following day. In the morning, the team was divided into two teams: one that focused on building the storyboard (Appendix II.H) and the other one that developed an interview guide for Friday's test. The afternoon was intended to design the logo, the mood presentation and the Landing Page³. The mood was made to comprehend whether customers identify with the problem or not and the Landing Page was developed to demonstrate to customers the product functionalities. The prototype included three different options that the user could go further: *What Now; What's Next; Inspire*. The first one helped a customer to understand how to make the most out of university life through colleagues' experiences. The second aimed to get inspiration from others to make up your mind about life after university. And the third one was used to share your own experiences to get others to take the leap. At the end of this day, the prototype was done (Appendix II.I) and the group was ready to meet with students.

Friday – The Testing Day: Last day of the sprint week, which means, the day of consolidating value and learn what our target thinks about the prototype. In the morning, the team improved detail aspects of the prototype and prepared the interview. After lunch, the interviews started, with around forty-five minutes per person, the team met with five potential customers: three women and two men aged between 21 and 22 years old. Two members of the team were conducting the interviews while the other three members were taking notes and analyzing their reactions to the prototype to validate, or not, the assumptions made before

³ A **Landing Page** is a standalone web page which is designed with a single objective - Call to Action. The page is distinct from the main website and is created with the purpose of advertising a campaign (Unbounce 2015).

regarding the solution. There was always a member outside of the room not to bias the study since the customers were his/her friend. The interviews were divided into three parts: (1) a questionnaire (Appendix II.J) was made to understand if the interviewee was in the defined customer segment, a Flow-rs; (2) introduction to the prototype(s) by showing the mood presentation, then the landing page without speaking to analyze their reactions and if they recognize easily the underlying problem and solution; (3) the team start asking afterwards some aspects regarding the product itself, such as the relevance, the current and possible improvement features, the difficulty of using the landing page, and what were the closest alternatives. This last day of the Sprint helps to know what to do next during the Customer Development stage to turn the new concept into a business opportunity.

3.3 Internal conclusions

In only five days a pre-validated problem and a pre-validated solution were born. After an intensive desk and exploratory research, the team found an opportunity in the market and through the Sprint Methodology and its tools, that idea turns into a prototype. The final result of this week was Flow, an interactive platform that allows to connect with real and relevant experiences. That digital library provides content regarding university decisions, flow assistant remind not to miss opportunities and also the ability to upload students' own experience to help others. Flow concept follows the customer characteristics, by not only inspiring students to make the right decision and on time but also requiring zero efforts from them. At the end of Friday, the team tested the prototype with potential customers and the overall feedback was positive. The digital library was perceived as a useful product that covers a relevant problem for students. When showing the mood board, customers were smiling and expressed, for example "It is so true". Then, when the team showed the landing page in silence, customers start sharing their thoughts about it. The product simplifies the process to discover new opportunities and creates a better experience than searching on the

Internet, they said. The interviewed wanted to know more about the products and its features, either they were interested in knowing more or they were a bit confused with so much information to process. The team explained better some aspects such as, the categories that will be displayed, as well as clarified that it will not be random videos, they must be approved by an algorithm. There were mentioned some improvement opportunities, between them the landing page layout - (1) some relevant information at the end of the page, such as the explanation of the section (“What Now” and “What’s Next”), (2) the names of each section unintuitive; (3) missing the deadlines bottom to send me a notification for stop really losing opportunities; and (4) the need of providing interesting categories that keep the customer on track.

Based on positive feedback received, the team saw a potential in the concept proposed and decided to continue with the prototype for the next steps, although it was necessary to make some adjustment to the design and the order of the content disposition of the prototype.

4. Back-End of Innovation Context

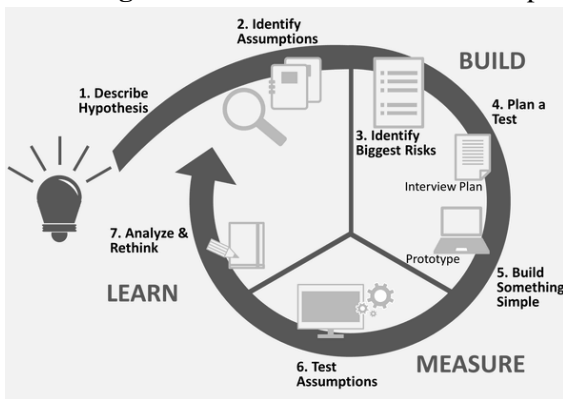
4.1 Theoretical Background & Literature Review

The Back-End of Innovation (BEI) is the part of the innovation process where the best ideas, tested on the ideation phase (Front-End of Innovation, FEI) take shape. As no organization possesses the resources to trial all possible ideas at a back-end level, it is at this part of the process that the importance of a well-structured FEI becomes apparent (Toby Farren, 2016). In the BEI phase, the strategy and implementation of these ideas are developed through a number of processes whose aim is to decrease risk and optimize innovation market-fit as much as possible before launch. The following chapters outline the methodologies followed in this stage to assure this.

4.1.1 The Lean Startup Methodology

The Lean Startup Methodology was created by Eric Ries in 2011, as a way to provide a more scientific and standard way to creating and managing new companies and aims to improve the process of new product development. This methodology is based on the assumptions that most startups and new products fail because they are not adequately tested during the development phase. Therefore, Eric Ries created the Build-Measure-Learn process (Figure 2). This way, in every phase of a project it is possible to be sure of the assumptions made, and their validity.

Figure 2. The Build-Measure-Learn process



Source: Eric Ries, 2011

The Lean Startup method has 5 principles that should to be used as guidelines and they are outlined in Table 9. In this project, the team used this methodology as the process for development, with additional methodologies to complement and validate.

Table 9. The principles of the Lean Startup Methodology

Entrepreneurs are everywhere	Anybody can start a new business or create a new product without prior knowledge of business management. The context in which you operate is the most important thing to succeed.
Entrepreneurship is Management	A startup is an institution, not just a product, so it requires management, a new kind of management specifically geared to its context.
Validated Learning	Startups exist not to make stuff, make money, or serve customers. They exist to learn how to build a sustainable business. This learning can be validated scientifically, by running experiments that allow us to test each element of our vision
Innovation Accounting	To improve entrepreneurial outcomes, and to hold entrepreneurs accountable, we need to focus on the boring stuff: how to measure progress, how to setup milestones, how to prioritize work. This requires a new kind of accounting, specific to startups.
Build-Measure-Learn	The fundamental activity of a startup is to turn ideas into products, measure how customers respond, and then learn whether to pivot or persevere. All successful startup processes should be geared to accelerate that feedback loop.

Source: Ries, 2011

4.1.2 Business Model Canvas

A Business Model is defined as “the rationale of how an organization creates, delivers and captures value” (Osterwalder, 2010). As these concepts can be fluid, fuzzy or simply not the same for every member of a team, the Business Model Canvas has been designed, a tool that allows the construction of a shared idea, by providing a framework in which to input all the needed information in order to create a business model. The Business Model Canvas consists of nine building blocks, that together make all the important aspects the business should focus on (Osterwalder, 2010). They are described in detail in Table 10.

Table 10. Business Model Canvas building blocks description

Key Partnerships shows the network of suppliers and partners that bring in external resources and activities.	Key Activities are the most important activities an organization needs to perform well.	Value Proposition are based on a bundle of products and services that create value for a customer segment.	Customer Relationships outline what type of relationship is established and maintained with each customer segment, and they explain how customers are acquired and retained.	Customer Segments are the groups of people and/or organizations a company or organization aims to reach and create value for with a dedicated value proposition.
	Key Resources are the most important assets required to offer and deliver the previously described elements.		Channels describe how a value proposition is communicated and delivered to a customer segment through communication, distribution, and sales channels.	
Cost Structure describes all costs incurred to operate a business model.		Revenue Streams result from a value proposition successfully offered to a customer segment. It is how an organization captures value with a price that customers are willing to pay.		

Source: Osterwalder, 2014

As was mentioned before in the Front-End of Innovation segment, the most important building blocks of the Business Model Canvas are the Value Proposition and the Customer Segments, as they are the only ones that can be responsible to assure the problem/solution fit. In practice, each one of the building blocks is initially constructed with assumptions that need to be validated. The process of that validation is outlined in the Customer Development Process chapter. Especially relevant to the solution created, multi-sided platforms get two or more sides on board and enable interactions between them (Hagiu, 2015). Therefore, the BMC will need to have two parties: those who use the platform as a part of their normal routine and those who create value for the platform (Brooks, G. 2017). In the specific case of this project, both parties can merge, and one single person can belong to both.

4.1.3 Customer Development Process

The Customer Development Process was created by Steve Blank. Upon reflecting on the topic of failed products and start-ups, Mr. Blank found out that, regardless of size or amount of resources, 9 out of 10 new products fail. The solution lies on the focus when creating these new ideas. New ideas should be developed with close relation to customers as early as possible. Any product “handed off to a sales and marketing organization that has only been tangentially involved in the new product development process lose.” (Blank, 2005). For this reason, Mr. Blank wrote his book, outlining his Customer Development Model, which consists of four well-defined steps divided in two phases: Customer Discovery and Customer Validation regard the phase in charge of the “search” for the right business model, and Customer Creation and Company Building belong to the “execution” phase. Table 11 summarizes each step.

Table 11. Summary of the Customer Development Model

Step	Explanation
<u>Search Phase</u>	
Customer Discovery	The goal of this step is to determine whether the problem identified by the founders is relevant, and to what customer segment it’s relevant to. In this step, the main objective is to take the assumptions made in the creation of the business model and turn them into facts. This step can be divided into four stages: 1. State the hypotheses about each of the building blocks of the Business Model and determine experiments to validate or test them. 2. Test the problem through the experiments defined in phase 1, and draw conclusions about the hypothesis, changing them if necessary. 3. Test the solution by testing a prototype of a possible solution, analyzing the reactions to see if it is viable. 4. Analyze the results, determining if another iteration is needed or if it is good to proceed to the next step.
Customer Validation	The aim of this step is to solidify the Business Model designed at the end of the Customer Discovery, by building a repeatable and scalable sales road map. It is important to extensively test the Business Model in order to prevent excessive costs in later stages. This step can also be divided in four stages: 1. Get ready to sell by preparing sales material and roadmap to prepare for the next stage. 2. Get out of the building by testing with real potential customers the prepared sales material and validating the previously constructed hypotheses. 3. Determining the positioning after engaging with some customers, define the positioning of the product and company. 4. Analyze the results from each step to determine if a new Customer Discovery phase or an adjustment to the Customer Validation stages is needed.
<u>Execution</u>	
Customer Creation	In this stage, the goal is to create end-user demand and drive it into the company’s sale channel. Heavy marketing spending will start in this step, which is why a flawless Customer Validation is

	crucial.
Company Building	After validating and creating a customer base, the company transitions from its informal, learning and discovery-oriented customer development team into formal departments focused on building mission-oriented teams that can execute the validated business model

Source: Steve Blank, 2005

The first step of the Customer Development Model is arguably the most important, as it outlines the necessary steps to validate the problem and ensure a Problem / Solution fit. After having reached that during the Customer Discovery, the next step is to reach a Product / Market fit, namely it means having a product that creates significant customer value as stated by Dan Olsen in The Lean Product Playbook (2015).

4.1.4 Validation Board

Developed by the Lean Start-up Machine, the Validation Board (Appendix II.K) is a tool aimed at helping entrepreneurs test out their assumptions and results obtained before regarding the problem and solution. In order to explore and validate assumptions, experiments are conducted to test the initial hypotheses developed. Testing hypotheses is made in cycles, where for each cycle, a Minimum Success Criterion⁴ was defined. The results from the experiments conducted to validate the hypotheses need to be analyzed, which result in final assumptions. Following this, conclusions must be drawn so that the relevant information is taken into account to understand the need to pivot⁵, or the validation of the cycles themselves. Finally, further steps and processes must be determined, not only to establish the additional assumptions that need testing but also to define the next experiments to be conducted.

4.2 Analysis: Validation of business model blocks

In the next step, the team used the Customer Development method to create a business model for Flow. The Customer Development process lasted six weeks and it was divided into two different phases: Customer Discovery (phase 1) and Customer Validation (phase 2). During

⁴ Minimum Success Criterion, or MSC is the minimum value required to validate any hypothesis.

⁵ Pivoting consists in making a fundamental change in the value proposition after analyzing results of experiments.

the whole Customer Development Process, the Validation Board has been used by the team as a tool to keep track of the results collected within the six cycles.

4.2.1 Phase 1: Customer Discovery

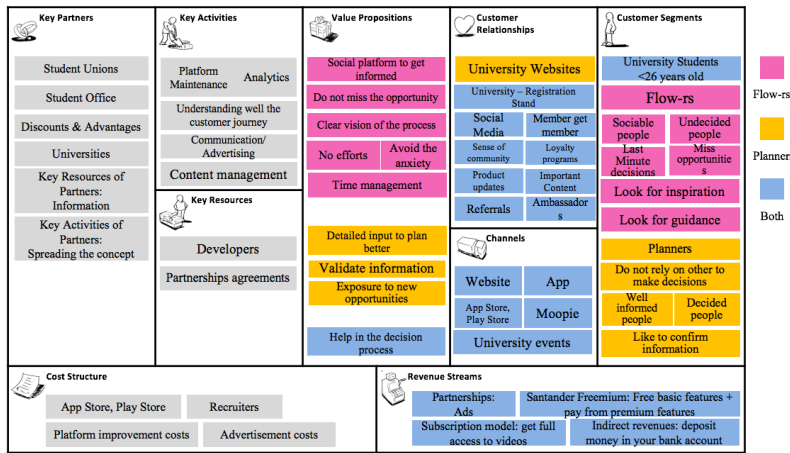
Four cycles were conducted in the Customer Discovery phase: two of them to test the problem and the other two to test the solution. To test the problem, 28 interviews and an online survey with 112 answers were performed in order to well-define the customer segment and its problem. To test the solution, there were dedicated two weeks in order to choose the best solution of the concept board developed. For that, 24 interviews were done, and a Facebook group was created.

a) Cycle 1: Initial Business Model Canvas

State the Hypotheses. At this early stage, several hypotheses were developed by the team for each of the Business Model Canvas Building Blocks, according to the overall feedback received during the Sprint week, as well as results from desk research, experts and students' interviews performed. The team developed a multi-sided platform that involves not only those who look for the content but also those who share the content. Through Figure 3 and 4, it is possible to analyze the initial business model for each problem: the customer segment that have many information which made them lose opportunities; and the share customer that want to share their experiences to friends for them to avoid mistakes.

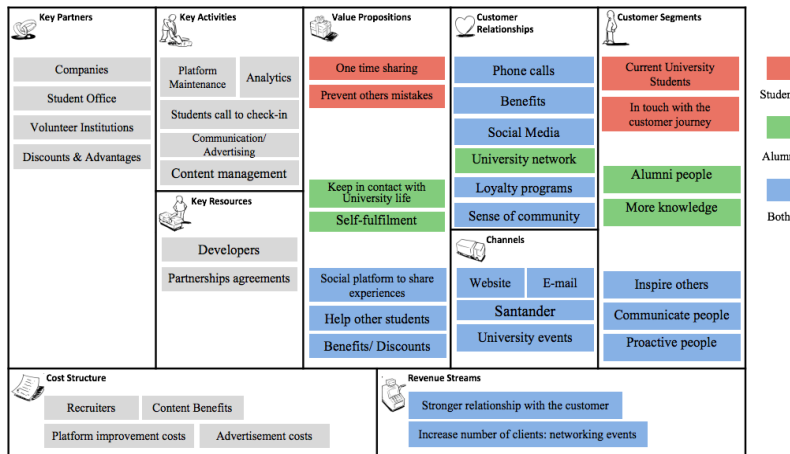
When doing the preliminary hypotheses (Appendix I.6), the team focused on the right side of the customer segment Business Model: Customer Segments, Value Proposition, Channels, Customer Relationships and Revenue Streams. Hence, 33 hypotheses were generated to validate the problem of the customer segment. However, at the beginning, the team did not realize the need of the sharing side which means that almost all hypotheses pretended to validate just the customers' Business Model.

Figure 3. Initial Business Model Canvas: Customer segment side



Source: Team own analysis

Figure 4. Initial Business Model Canvas: Sharing customers side



Source: Team own analysis

Test the problem. To validate the hypotheses made initially, the team used interviews as an experimental tool. For that, it was collected insights from 10 Flow-rs and 4 Planners. The team started to confirm, or not, the assumptions related to the two customers profiles, Planners and Flow-rs, but also received some feedback from the other aspects of the business model, such as the best channels to use or the best way to reach, keep and engage the customers. From the Flow-rs side, the characteristics of waiting until the last minute to make decisions, not liking to make efforts when looking for information, and being undecided customers were confirmed throughout the interviews. Furthermore, in this first cycle, it was mention for many students that they are looking more for a source of inspiration for their decisions than guidance. Additionally, when it comes to get information or advices in order to

be able to decide, Flow-rs stated that their main means of information is a peer-to-peer way or in a social way, such as friends' feedback. The team also assessed that the problem of missing opportunities due to laziness or procrastination is very present amongst Flow-rs and that it causes them a reasonable amount of pain and anxiety when the decision-making comes.

From the Planners side, although the small sample, it was possible to assume that they are decided people who are normally informed about everything that surrounds them. Even though Flow-rs are keener to trust and rely on their friends and peers feedback in their decision-making process, Planners do not totally rely on this source of information when facing an important decision, indeed they trust more on their own researches, which are from different sources to get detailed information in order to validate and have a complete input.

Other important insights gathered from interviews were related to other block of the Business Model Canvas. In terms of channels, both customer profiles prefer to use an app rather than a website and assume that catch more their attention an interactive approach as a mupi that pass information in front of their eyes rather than an email. For downloading an app, both assume that the registration day is the best moment to do it. However, both listen the advice of their friends when they show a good app to download and both validated that benefits are not a decision-factor for them to download the app. In terms of customer relationship, the best way to reach Flow-rs is through social media, such as Facebook, Instagram, among others what with the Planners is no longer true. Then, Flow-rs do not like the idea of having ambassadors in the university advertising their brands because they think they are manipulated people who are just there to sell. Otherwise, Planners appreciate ambassadors as a way to reach them.

For those customers who share their experiences, the team only realized that both customer segments, Flow-rs as well Planners, were willing to share their experiences. However, the team decided to test, further, if the customer segment of the sharing side was divided into current university students and alumni students. This is justified by the fact of the need for

information from current students but also from those who already finished their studies. For example, to have information about what to do after university, it is necessary alumni people that have already experience as workers or volunteers.

b) Cycle 2: Problem Validation

State the hypotheses. Afterwards, the study went deeper in some aspects of the Flow-rs' profile and its problem and also, aspects of the share customer. The team generated 19 hypotheses (Appendix I.7), related to Flow-rs more than Planners, however, the team decided to continue to interview some Planners to more accurate our findings from the previous week. The hypotheses were based on Erasmus and course electives categories since that week was exactly the moment that students of some universities were deciding which country should they go and what elective should they take.

Test the problem. To test the problem in more detail, the team decided to not only do interviews but also an online survey. The interview would serve to continue to validate some assumptions done about the Flow-rs' problem. The main goal of the survey was, from the customers segment side, to rank the most important decisions in university and the most difficult ones to get information and, from the share side, to understand if customers are willing to share and what are the main reasons (Appendix II.L). Through the insights collected from the 24 interviews (17 Flow-rs and 7 Planners), the team more accurately validated the assumptions of each customer profile. Among other assumptions that were confirmed, the team realized that Flow-rs look more for inspiration rather than guidance and prefer informal ways to get information instead of formal ways such as student offices. From the Planners side, the team validate the same assumptions as before.

Although the team has encountered several types of decision-making in the university, the survey helps us to identify the most important one. There were highlighted five categories: Erasmus, Masters, Course Electives, Bachelor and Extracurricular activities such as

volunteering and clubs. There were also found that neither age nor nationality are important decision-factors, so being Bachelors or Master or from other nationality than Portuguese do not change our assumptions. Regarding the sharing part, overall both segments share their experiences and information with their friends. In 112 answers, 65% of the total share because they want to help customers in their choices while 44% share to avoid customers commit the same mistakes as they did. In addition, customers are more likely to share when having benefits, such as discounts on services that they use frequently (e.g. transportation or fast-food restaurants).

Generally, the insights proved helpful in cementing the characteristics of the customer profiles and the corresponding problems, as most assumptions were accurate and approved.

c) Cycle 3: Concept Board

State the hypotheses. Although testing the problem phase seemed to be a chapter closed and validated already, the team saw an opportunity to come up with alternative concepts to solve the same problem. Hence, in order to have a set of potential solutions and find out which has the highest possibility to succeed, the team decided to include them in the testing process. During this cycle, 14 hypotheses were generated to further understand the desirability for the additional concepts originated, as well as the possibility to represent eventually a valid alternative to the initial concept of a Digital Library (Appendix.I.8).

Furthermore, another purpose the team wanted to reach, when drawing the hypotheses, was to understand whether the new concepts were able to solve the problem identified or not, but also if the value propositions were easily understood by the customer segment.

Test the solution. Therefore, after a deep brainstorming, the team came up with two more concepts rather than the Digital Library built during the sprint week. Thus, two more alternatives were designed from scratch: Flow Assistant, a student's digital assistant and Flow

Club a cross-university community. However, the team kept testing the concept of the Digital Library as well (Appendix I.9).

Regarding the Flow Assistant (Appendix I.11), the idea was to help students to become a better version of themselves, thus in line with the long-term goal of the Sprint. It is a students' virtual life partner that helps them take the right decisions in the right time in order not to miss out on unique opportunities and to make the most out of university life. Several technical features were designed by the team, such as the possibility to customize the digital assistant based on the student genders and their personal interests, as well as to decide what sort of relationship the customers want to establish with their virtual assistant (e.g. daily, weekly or monthly basis). Once the profile was edited, the customers could be able to find, match and connect with other students whom have the same interests. Additionally, it includes the 'challenge yourself' feature, which incentivize students to reach certain goals (e.g. internships, volunteer and extracurricular activities etc.) and be rewarded once accomplished.

The second concept was the so-called Flow Club (Appendix I.10), an exclusive interdisciplinary community for students wanting to seize opportunities in order to unleash university life without boundaries. Flow Club is a network of students coming from different backgrounds that come together to share their knowledge and experiences. It is a social way for university students to get inspired through gatherings with other students from different areas, as well as a networking opportunity to learn from other students' experiences. It includes also the access to cross-university events (i.e. where Bank Y is present) and workshops provided by students, so that students are enabled to develop specific skills in different areas, by allowing them to better adapt and be more appealing in the job market.

In order to test and validate the new concepts, the team ran a set of interviews with 22 interviewees, by following the methodology of WOW Testing that allows to evaluate with a quantitative component, how excited were the students about those new concepts. The

approach followed was to firstly understand whether or not the interviewees were considered Flow-rs, as well as figure it out if they identified themselves with the validated problem. Secondly, the team would eventually show the three different concepts to the interviewees one by one, taking notes on their reactions without make any introduction about the concepts or comments. The purpose of this approach was to measure the degree of enthusiasm regarding all the concept boards. As result of the 22 interviews conducted, overall the students identified themselves with the problem, which means that they were clearly part of the customer segment targeted, Flow-rs. However, students were a bit confused, although they understood the concepts, there were too many information the team needed to further explain like in the last day of the Sprint as well. Therefore, interviewees did not see any potential value in the two new concepts created by the team. The conclusion was definitely pointing towards the Flow Digital Library solution, as the one with higher success among students that have shown to better solve the problem identified. Indeed, 81% of the interviewees liked the Digital Library concept, against the 27% for the Flow Assistant and the 22% for the Flow Club. In digital assistant concept, suggestions and help in the decision process was seen as interesting, but the idea of having to create an extensive profile with interests and aspirations was seen as a big hassle to something that the students would not know from the start to be useful. This means that the solution has to adapt its profile creation method, either by having a standard product from the start and creating the profile as the student uses it, or by making the profile creation process different and unique, seen as an experience itself. The fact that the assistant would only provide existent information from elsewhere was dismissed as potentially irrelevant, and the students believe that the main source of content should be unique. The concept of a 'physical club' that connects people from different backgrounds to share their experiences was dismissed by the Flow-rs. This was because this segment is usually not aware of their issues and that the "minimum effort" approach is always preferred.

Being an exclusive club, which requires a formal application and the effort to actually go to a physical place, it is seen as not worthy to solve the problem. Nonetheless, there were some synergies between the concepts, that were seen as a “nice to have” in a possible solution. In the Flow Assistant, the suggestion feature was seen as a great potential of providing new opportunities the students might not be aware of beforehand. In the Flow Club, the social interaction feature was also valued.

d) Cycle 4: Solution Validation

State the hypotheses. In the last cycle of the Customer Discovery, once having restricted the number of solutions from three to one, the Digital Library, the team decided then to create a Facebook group in order to test and validate both side of the platform: if students were willing to share their experiences and if the Flow-rs wanted to get inspired by others’ experiences. Therefore, 11 hypotheses were developed to test both aspects above-mentioned for the Facebook group (Appendix I.12).

Test the solution. Regarding the results achieved, in a time frame between 5th of November and the 2nd of December, the Facebook group registered 26 members signed-in, a total of 117 likes on the Flow Facebook page, which have been visited 427 times in 28 days. Additionally, 13 posts were published in 28 days with a total reach of 319 people (Appendix II.M). However, nobody shares their experiences within the Facebook group, even though customers are likely to join the group.

After a deeper analysis based on the feedback collected, the reasons for why Flow-rs did not share any content on the group, among other possible ones, were the following: firstly, students stated that they did not have time to do a video about their experiences when they have been asked to, due to the numerous university commitments. Secondly, it was clear as there was an overall skepticism about sharing personal experiences in a social network such as Facebook, where the word privacy is not exactly the main core value by being a social

media. Thus, students did not feel comfortable to provide their information there. Therefore, the experiment built with the purpose to test the sharing content side failed, even though the likes to the Facebook page and the views, as well as the members registered in the group, have proved the overall appreciation towards the concept provided as a mean to solve a relevant problem for Flow-rs.

Proceed. Having kept in mind the results from the experiment failed, the team decided to move forward with the original concept, the Flow Digital Library. However, since it was evident as sharing personal stories in a well-known social media such as Facebook was not the right approach to follow, in order to make Flow-rs share their experiences. Nevertheless, the team collected solid evidences regarding the concept itself, which demonstrated to solve a validated problem that the customer segment really cares about. Hence, the hypotheses related to the customer segment and value proposition were validated, thus the team reached the **Problem/Solution Fit** and finally entered the Customer Validation phase.

4.2.2 Phase 2: Customer Validation

During this phase, the aim of the team was to test the market in order to validate afterward the so-called Product/Market Fit. Hence, in the Customer Validation process, two different cycles were performed by the team: during the first cycle, the aim was to test the sharing people side, by creating a virtual prototype; while in the second cycle the purpose was to test the customers segment side and create a MVP. However, in both cycles, the team tested the value proposition and solution as well as the customer relationships.

a) Cycle 1: Landing page: Sharing customers

Get ready to sell. During this cycle, the team started to design a landing page for the ‘new’ version of the Flow Digital Library concept, by adding more detailed set of features in order to be able to present customers a more complete virtual prototype with a medium to high fidelity. Hence, 16 hypotheses (Appendix I.13) were developed to test and validate the

customer's willingness to share and their preferences regarding the format (e.g. video, voice record, slides, post), as well as if the concept was easily understood from the landing page. Furthermore, additional changes have been implemented into the share page, as for each of the categories the team provided a sort of guidance on what sharing customer might say about their experiences, by including specific recommendations in all categories, such as possible topics to talk about and a section where to answer some proposed questions. In order to test the above-mentioned hypotheses and to finally build a virtual prototype, a Flow landing page was created at the end of November by the team (Appendix I.14).

Therefore, a set of small technical features were developed and implemented on Flow, in order to allow a sufficient navigation through the platform for potential customers. Two different pages were developed: discover and share. Regarding the discover page, here customers could have watched experiences of other students about the five categories that were ranked by the survey (e.g. Erasmus, Elective courses, Masters, among others.) in several formats as above-mentioned. The share page was specifically designed for those who were interested to share their academic life experiences. Additionally, the team decided to bring the community idea - originally belonged to the Flow Club concept and particularly valued by students - into the Flow landing page. Lastly, before actually "getting out of the building", the team designed a sort of guideline in order to address customers, which was based on an informal approach, by sending the link of the landing page and asking students to explore it and eventually to share a video with the team about their experiences in case they wanted to.

Get out of the building. The testing process was mainly based on sharing the landing page on Facebook groups as well as contacting directly people, by asking them to share their experiences on the platform built. Overall, 26 people have been reached out by all members of the team via cold calls and private messages. The outcome was considered to be pretty satisfactory by the team, since 11 videos and 4 voice records were collected (i.e. mainly about

students exchange experiences) and other 11 videos, 2 voice records and 1 post were promised to be done in another moment due to lack of time. Hence, students have shown that are willing to share their experiences even without benefits, thus the solution provided to them can represent the right tool they were looking for. Overall, in terms of customer relationships the combination of direct contacts and Facebook seemed to be the tactic that worked the most.

Therefore, Bank Y might be able to leverage this validated approach used by Flow and include it within its customer relationship management. Lastly, according to the data collected 81% of the students reached out stated that they prefer to share their experiences in a video format rather than the other alternatives available. However, the team believes that the voice message might add value for the sharing customers, since there are some students that care about their privacy or are simply shy. This validates the importance of a solution such as Flow, that allows anyone to be able to share without any constraint.

b) Cycle 2: Landing Page: Customer segment's side

Get ready to sell. During the last cycle of the Customer Validation, the purpose of the team was to finally present customers a high-fidelity MVP, as well as keep testing the value proposition and solution provided. Thus, 15 hypotheses have been developed in order to test the customers segment side and to better understand their interaction with the prototype (Appendix I.15). At this stage, the team decided to improve the prototype by including more sophisticated features, with the aim to provide a more engaging customers experience. Hence, the implementation regarded not only the layout and structure of the website, but also the community part, where now upon signing up the customers have not only the possibility to find other students that are interested in doing the same things, but also to create a bank account that gives you access to several tailored benefits through the 'Flow card' (e.g. scholarships, discounts in "Rede de expressos", "CP", "Burger King" and summer internships

at Bank Y). Furthermore, in terms of features the team created an additional connection between Bank Y and Flow, which is based on linking Ads about existing products and services of Bank Y, by customizing them according to each subject of the posts published by Flow. Finally, customers will have the possibility to actually ‘take actions’ through Flow, since within the discover page below each video, voice records etc, there will be provided directly the opportunities, such as links and deadlines for applications.

Get out of the building. In order to test the hypotheses as well as the value proposition provided by Flow for the customers segment side, the team decided to virtually “get out of the building”, by sharing the Flow prototype on specific Facebook groups such as the ones for first year Bachelors, but also keep contacting directly potential customers via cold calls and private messages. The choice of sharing Flow on such ‘niches’, was based on the assumption that: since most of the contents gathered so far was mainly related with Exchange experiences, given the life period that the team was in that week, where the Exchange decision making was approaching, the team decided that Flow would have added more value to bachelor students rather than others. Besides, the aim was to validate if the solution was valued not the specific categories. Furthermore, according to previous interviews, the team realized that Flow-rs are more likely to be aware of something through the social media.

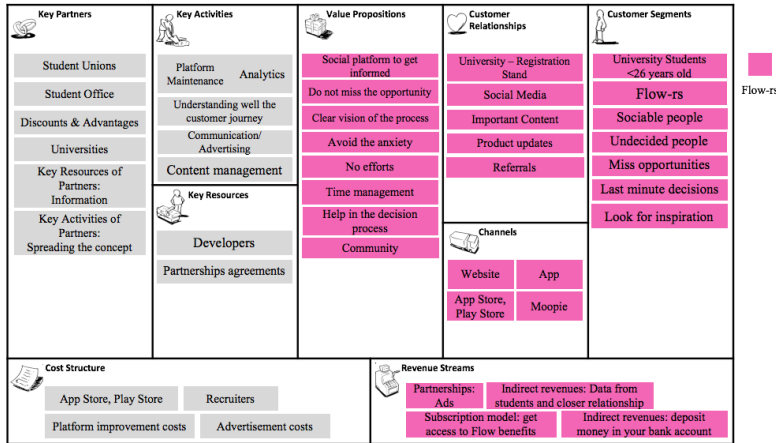
Additionally, to be able to deeper understand the customers’ behaviors on the platform and to see what the features were they valued the most, the Google Analytics tool was used. Based on the results collected, Flow registered more than 1,000 page views with 298 customers who actually explored the platform, with an average session duration of 02:25 minutes. Furthermore, most of the customers were university students likely enrolled in Bachelor and Master studies, according to the demographic data collected by Google Analytics that recorded an age range between 18-28, of which most of them accessed the landing page via mobile rather than from their computers. Overall, customers’ clicks have shown a clear

preference towards the ‘discover’ page, which validates that customers really value watching other peer’s experiences, hence the content appears to be relevant to them. Since Facebook has demonstrated to be the easiest way in terms of reaching out sharing people - during the 1st cycle of customer validation - the team decided to keep using this social media as a tool to manage the Customer Relationships with the customers segment side, without stop contacting them directly as well. Hence, in order to “get” customers, Flow will exploit the online social media campaigns, but also and more important a ‘physical’ campaign during the registration days at universities. Additionally, to “keep” and “grow” customers, several product and category updates based on their journeys are going to be constantly implemented, in order to maintain the content relevant for the customer segment as well as the benefits provided. Besides, the team believes also through the interviews collected, that the product will be able to generate conversations in order to become “viral”, so that students will use it when making the decisions and will share eventually with their friends (e.g. word of mouth and member gets member). According to the overall insights collected, Flow seemed to solve a real and relevant problem for the customer segment identified, and they do see value in the value proposition provided as well as its features. This is testified by their high level of enthusiasm shown when customers interacted with the platform.

4.3 Final Business Model Canvas of Flow

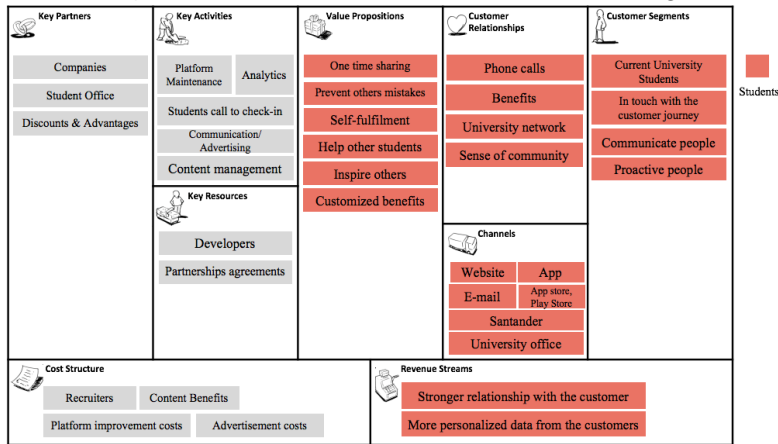
Finally, after having tested and validated all the previous hypotheses regarding the front office except the revenue stream, the team built the final Business Model Canvas as displayed below in Figure 5 and 6. However, the hypotheses related to the back office were not been validated, hence they still remain assumptions.

Figure 5. Final Business Model Canvas: Customers segment side



Source: Team own analysis

Figure 6. Final Business Model Canvas: Sharing customers



Source: Team own analysis

Customer Segments and Value Proposition: The team decided to target two customer segments, which were: Flow-rs for the customers segment side and university students for the sharing side, since based on the previous interviews there are no differences between Planners and Flow-rs when it comes to share their experiences. Although alumni (e.g. ex-students, graduates or workers) have shown as well to be willing to share their experiences, the team did not proceed further with them because realized that within the top five categories validated that Flow will contains, there were no alumni yet. Regarding the customers segment side, the value proposition offered by Flow among others is to be part of a unique community of students, that allows you to get access to tailored benefits (e.g. discounts, scholarships etc.). Additionally, Flow eases the decision-making process of Flow-rs' customers, since they can get inspired by watching others' experiences, hence avoid missing out opportunities. For the

sharing side, the value proposition conveyed by Flow is to be able to inspire other students through their experiences, by preventing other students to eventually commit the same mistakes, which somehow gives a feeling of self-fulfillment to them.

Customer Relationships: Regarding the customers segment side, in order to get customers, the team decided to use both online social media campaigns (e.g. Facebook) and offline campaigns during the first days at universities since the team has validated that is the best way to reach customers. While to keep and grow customers, not only several product and category updates will be implemented to maintain the content relevant in a fast-changing environment, but also referrals since customers are likely to download the app if suggested by others. For what concerns the sharing customers side, cold calls will be used to reach and get customers. Bank Y might have an employee calling directly random students to ask them if they are willing to share their experiences, since the team validated that students feel flattered, because Bank Y is calling them personally. Whereas, to be able to keep and grow customers, several benefits a unique community have been designed by the team.

Channels: Flow will get to its customer segments through mainly virtual channels (e.g. mupi, app and website), which can be downloaded via App Store or Play Store. Furthermore, an indirect channel will be used, such as students' volunteers from other years in order to generate conversations and raise awareness around the product through the word of mouth. Additionally, Flow will be bundled with other products and services of Bank Y (e.g. scholarships, internships, Flow card, etc.), which will improve the poor communication between the Bank offers and students. Currently, the approach followed by university offices is based on contacting students at the end of their Exchange period abroad via emails or talking directly with them, by asking to do a survey about their experiences. Furthermore, these offices also provide to students interested in going abroad, the contacts of people who already went before in Exchange, to help those interested on issues related to the host country

or university. With that, and through interviews performed, the team validated that university offices can also be an indirect channel through which Flow reaches its sharing customers.

Revenue Stream: A subscription model has been designed by the team for the customers segment side as follows: although all students from Portugal will have access to the Flow platform and its contents, only the Bank Y's clients can fully exploit the benefits associated with having a Flow account (e.g. community, discounts, scholarships, internships etc.). While regarding both sides, since nowadays data is the most valuable assets to better understand the consumers' behaviors when designing a product that meets customer needs, Flow will enable Bank Y to know exactly in which life stage students are, what are their needs and problems. Thus, Bank Y will be the only one to have access to such valuable information.

5. Recommendations

5.1 Answer to “*Can Bank Y retain students as clients after they turn 26 years old?*”

This Work Project had as initial challenge to improve the Bank Y performance among the university students' segment. After further research, both internal and external, the team reached the conclusion that the true problem for Bank Y was that even though its acquisition process was effective, it resulted in fairly low retention rates, which end up mitigating the value of an investment in this customer segment.

This segment is especially elusive to financial companies in general due to their scarce financial needs. University students tend to have very little knowledge of finance (e.g. savings) but more importantly, they lack the capital to make use of complex financial products. Therefore, any effort to provide better financial products to this segment would prove to be unfruitful. The team then decided to opt for a non-financial solution that would solve relevant problems from this segment.

After some initial research done with the purpose of identifying the most relevant problems for university students, the team found that students often feel regret for not taking the most out of their university experience. This is mainly due to the lack of knowledge regarding the immensity of opportunities available, or the mismanagement of their time which stops them from being able to take said opportunities. In order to currently correct this situation, most students talk to their colleagues to obtain more information. The pain arises when the community in which the student is in cannot help solving these issues.

For that purpose, Flow was created, an experience-sharing platform, based on the validated assumption that university students many times feel lost or regretful regarding their time at school, due to missing on opportunities they had not heard about before or took the wrong decision due to lack of information. Flow aims to create a cross-university community of students who help each other discover new opportunities and take action together, with the help of Bank Y. By knowing the current actual needs of university students, Bank Y can indicate the most helpful products or services it provides to them, and therefore create some much-needed interaction between the two.

The goal of Flow is twofold. On one hand, it aims to help students make the most out of their university life and change its brand image from a purely financial institution that sees students as possible clients to a brand that is interested in improving the lives of its clients. On the other hand, it aims to provide a means for Bank Y to truly understand the segment's needs and provide more valuable services during their academic life and using their current offer to a better use.

By becoming more relevant during the students' lives, the bond between the Bank and them will be stronger, which in turn will assure that a relationship is already created by the time the students reach the professional world, making a move away from Bank Y less likely, and possibly improving the Bank's current retention rates.

5.2 Implementation Plan for Bank Y

5.2.1 Improvement opportunities

First day of campaign: Throughout the interviews, the team realized that students are more likely to be engaged and also to take action on the first day of university. Currently, the Bank Y is attracting many students to open an account in those days by having one-time interaction in the universities that have an agreement with. For students is mandatory to pass there because the student card is also created there. Because of that, the current approach of the employees tends to be too assertive, by playing with that advantage in order to influence students to open an account. On the one hand, there are students that appreciate the physical stand since they value the personal interaction, which is crucial when explaining the process and benefits of opening an account, and also the ease and speed of doing it. On the other hand, some students complain about the misleading information and the communication done or open accounts because they understood it was mandatory or because of the discounts, and not because they really need it. These reasons devise a negative bank image in several students, which leads not to use the account or even close it. After analyzing the collected insights, the team understood that although the strong presence in universities and the positive results at the end of the year in accounts open, students do not create a powerful relationship with Bank Y. With that, the team proposes a different communication and some additional interaction with students. First of all is important to highlight that the focus will shift from the Bank Y to the new retention service, Flow. There will be just one stand, called Flow, which will be divided into 3 main areas: explanation spot, iPad spot and open an account spot. All students are guided for the first area, where employees have the mission to explain what can be done in that stand by explaining the Flow concept, the student card and the community which means open a bank account. Then, students decide what they want to do, if they are excited to be part of the community, go to the open an account area, if they want to know

more about Flow, download the app or create a student card, go to the iPad area. In the stand, there should be screens passing videos: a specific video of Flow concept and also examples of other students' experiences. That way, students will decide by their own what they want to do and just open an account if they see value on that.

However, the new approach has additional interactions. These days are intensive, and Flow is an expert to help students when they get confused. Students are lost and scared, this moment is a big transition in their life: too many people to know and too much information. To solve that, the team wants to create suspense along the day and at the end of it, make something different. Not everyone goes to the Bank stand, so Flow has to approach them. In this way, Flow will have students' volunteer from other years that will wear t-shirts with strong colors, and with attractive words about Flow, such as "Stop"; "It is time"; "Community"; "Take action"; "You can do it"; "Too much"; "Missing opportunities", "What is this?". They will be all day with students, creating suspense about this new service and also helping them in the anxiety moments of the day. At the end of the day, when they are exhausted, Flow will be there for everyone. First start by doing a small introduction, showing the mood board done by the team and then explaining what Flow is and how can Flow add value in students' life. Then, Flow must have to create a relax moment with everyone, like a small party where everyone is invited.

The team believes that this approach goes in line with the mission and vision of Flow, being there in the crucial moments and stop missing opportunities. Although the approach of opening an account is placed for second, the team realized an opportunity in Flow which implied the bank account but with a positive perception.

Expansion: Another recommendation that the team wants to share is the opportunity of Flow expansion. Flow is a concept that helps all students regardless of the student background. The categories provided are easy adapt to the country or university and there is content that is

common to all. Herewith, Bank Y has a strong presence around the world and the focus on university students is something that the bank does in all countries. Through that, the team suggests taking advantage of this synergy in order to expand that for all countries where Bank Y is present. In that way, students will have access to more content and are able to get in advance opportunities from all over the world. Furthermore, when it comes to exchange, the team saw an opportunity in this network. Students will have the possibility to talk with Bank Y's employees that are living in the host country in order to get in touch and ask for help and advices. That way, Flow will help students without borders.

5.2.2 Action Plan

In order to help Bank Y implements Flow into their next academic year, an action plan was done according to the 3 M's methodology⁶ and can be seen in Figure 7.

Figure 7. Action Plan for Flow in 2019

Activities	Minutes									Men	Money
	January	February	March	April	May	June	July	August	September		
IT / Development										IT Team 2 people	Wages 55.200 €
UI / UX Design											Budget 50.000 €
Additional Validations										5 people Team	Wages 138.000 €
Testing											
Content Generation											Budget 150.000 €
Development of Registration Campaign											
Marketing Campaign											
Launch of Flow											

Source: Team own analysis

As the Flow landing page was already developed by the team, and received good feedback from customers, the main focus should be on the implementation of the smart features of Flow, namely the profile-based suggestions, and groups for people embarking on the same experience. This task should lay on the IT team, which must also develop and improve the User Interface (UI) and User Experience (UX) of the platform.

⁶ 3M methodology - Minutes (a time frame for the key activities to be performed); Men (the composition of the team necessary to perform said activities) and Money (the budget and salary needed to complete the action plan)

As the team focused on the validation of the Front-End building blocks, additional validations of the BMC must be conducted, to confirm the assumptions made. As suggested in the previous chapter, it is important for Bank Y to change its registration campaign and integrate Flow in the process, as that is the main way Flow will be communicated, beyond word-of-mouth or occasional events. This should take a good part of the year, and it should have part of the team dedicated to it. Additionally, the marketing campaign needs to be thought of by the same team. Finally, during the whole process, Bank Y must assure that new content is produced to the platform, using the validated Customer Relationship blocks.

5.3 Possible Impact for Bank Y

5.3.1 Market Size

In order to provide benchmarks and performance reference to Bank Y's current operation, which the Bank does not control at the moment, the team decided to conduct a market analysis using the TAM, SAM, SOM methodology. According to *Direção Geral do Ensino Superior* (DGES, 2018), the public entity responsible for the higher educations in Portugal, in the current year of 2018, 54,829 new students enrolled in Portuguese universities. For the past 5 years, this number has been growing at a steady rate of 1% per year. Bank Y is present at the registration week, the most active time of opening accounts during the year, in 79 of the 161 higher education institutions in Portugal, which translates to 24,726 students enrolled in universities where Bank Y is active. According to studies performed from the Bank beforehand and the team's field interviews conducted during this project, around 90% of these students own a bank account or open one during their studies. In 2018/2019 lecture year, Bank Y has opened 18,262 bank accounts in universities, presenting an acquisition rate of 82%. According to internal statistics, 40% of students close or do not actively use their accounts by the fourth year of school, with this number increasing to roughly 60% (number estimated based on field interviews, as the Bank only tracks the activity of university accounts

for the four years following its opening), meaning that only 7,305 valuable accounts are opened this year. Market size financial value cannot be truly calculated without an accurate measure for the lifetime value of a Bank Y university student customer, and therefore the team decided to present this information in terms of number of accounts opened and active.

Table 12. Summary of Flow’s SOM

Dimension	Gross (# of opened accounts)	Effective (# of active accounts by the student’s age of 26)
Total Available Market (TAM)	54,829	54,829
Serviceable Available Market (SAM)	24,726	22,253
Serviceable Obtainable Market (SOM)	18,262	7,305

Source: Team Own Analysis

5.3.2 Key Performance Indicators

Customer Acquisition Cost (CAC). In order fully understand the impact of Flow, it is very important to measure accurately the costs of acquiring new customers. This metric has to take in consideration all the investments related to marketing expenses, which in this specific case not only include traditional marketing expenses, but also all the necessary investments for the development of the registration week campaign and the funds that Bank Y provides to universities as patronage, which enables the Bank to be present during the registration week. On the other side of the spectrum, it is also important to keep track of the costs of acquiring new content to the platform.

Customer Retention Rate. The main objective of Flow in terms of benefits to Bank Y must be the decrease in closed accounts. Customer Retention Rate is vital for the service to be valuable.

Rotation of Content. Flow is based of customer-generated content, a vital KPI to keep track is the new content being produced for Flow. Not only if new topics and experiences are being uploaded, but also if previously shared topics are updated from time to time. If that fails, the platform loses its value and will not be effective as a way to retain customers, as the content will be seen as outdated.

Customer Lifetime Value (CLV). A vital metric to determine not only the value of Flow, but the effectiveness of the whole university student segment as a whole, Bank Y currently has no measure of the Lifetime Value of their clients. For this segment specifically, this measure is truly vital, as the Bank invests their capital on such campaigns based on the assumption that while their studying, their intrinsic value to the bank is minimal, but as they develop in their professional careers, they become far more valuable to the Bank. Being so, retention rates will naturally be also very important to calculate this KPI.

CLV/ CAC ratio. Ultimately, the KPI that will measure the profitability of Flow and the university segment will be the ratio between the Customer Lifetime Value and the Customer Acquisition Cost. This ratio should be around or higher than 3:1. A lower ratio reflects an overly expensive endeavor and requires either optimization of the process, divestment or changing the approach. A much higher ratio might imply underinvestment in the acquisition phase and should require a redesign of the customer acquisition phase if needed.

5.3.3 Cost Drivers

Development Team/ IT. Since Flow is to have a personalized suggestion to each user, making the experience unique to each student based on their interests and the content they watch, an algorithm needs to be developed that integrates and assures the quality of that feature in the platform. At least two people would need to be in charge of IT and R&D. Assuming a salary of €2,000 for the 14 months mandatory to pay to each employee in Portugal represents a cost of €56,000 per year.

Content Acquisition Team. As validated before, students tend to share without benefits, however at least while the platform is launching, they need to be called upon, either through direct interaction from the Flow Team, indirect contact made from the university, or a referral system between students. These approaches can be simultaneous, but all require some type of costs from the Bank. A team of 5 people would be the minimum desirable. Assuming a salary

of €2,000 for the 14 months mandatory to pay to each employee in Portugal represents a cost of €140,000 per year. Additionally, the team believes one more member should be hired around the fourth year of the project to accommodate the increase in size of the project. A budget of €150,000 was given to overall extra expenses with marketing, campaigns and other needs, and it is known that in terms of prizes given to students, the Bank pays €2,5 per student that opens a new account. Costs regarding the production of the bank cards had to be estimated based on information given from the bank specialists.

Data Storage. One advantage of Flow is the amount of information that can be obtain from this segment. Currently, the bank needs to pay exorbitant amounts of money to obtain market reports from market intelligence companies. The data and the capacity to run a platform of the dimension of Flow will require costs related to the maintenance of the network. A research was made to determine the average cost of a server, which totaled around €50,000 a year.

5.3.4 Financial Predictions

In order for valid financial predictions to be made, some assumptions had to be built, mainly regarding the costs and use of the account. The subscription payment is made by automatically transferring 5 euros from the student's bank account to a savings account during their 2nd and 3rd years of studies, which in practice does not cost anything to the student and helps them save for their future endeavors. Additionally, as a way to reduce the barrier to entry in the bank, the higher tier of bank account entrance fee is to be reduced from the current 55€ to 20€. Related to the acquisition rate, the team believes that in the first year, given the current systemized approach, the rate might drop due to the change in process, hence the reduction of the SOM value, from 18,262 to 17,150. In the following years, due to optimizations and fine-tuning of the process, the acquisition will rise and eventually plateau around 90%, a reasonable goal to pursue given the Bank's current acquisition rate. Retention rates are presumed to increase at 5% per year, as the value created by Flow is assumed to be

enough to create the desired relationship with the Bank. As a conservative measure, the amount of people paying the subscription fee was assumed to be only the number of clients that will remain with Bank Y until they are 26.

Figure 8. Financial Model Assumptions - Conservative Scenario

	Year 0	Year 1	Year 2	Year 3	Year 4
Acquisition Rate change per year	-5%	2%	4%	4%	3%
Retention Rate change per year	5%	5%	5%	5%	5%
Acquisition Rate	77%	79%	83%	87%	90%
Retention Rate	45%	50%	55%	60%	65%
New clients	17150	17790	18897	20027	20947
Clients at the turn of 26	7718	8895	10393	12016	13616
Cost of opening account	20	20	20	20	20
Subscription fee (paid on 2nd and 3rd year)	5	5	5	5	5
Bank card (unit cost)	4	4	4	4	4
Income from accounts opened	343,000.00 €	355,800.00 €	377,940.00 €	400,540.00 €	418,940.00 €
5 euros / month on 2nd and 3rd year of studies		463,080.00 €	996,780.00 €	1,157,280.00 €	1,344,540.00 €

Source: Team own analysis

As it can be seen in Figure 9, even with fairly high initial investment and marketing expenses, the implementation of Flow is deemed to be fairly profitable, presenting an NPV of 3 Million Euros and a Payback Period of 1.3 years. Even with a more pessimistic scenario, Flow is still considered by the team as an investable project. The model was computed to briefly show the impact a product like Flow will have to Bank Y, but it is important to take in consideration its flaws. The biggest result of an initiative like Flow is without a doubt the increase in long-term clients, which will have a long-term effect in the bank. That said, given that calculating a lifetime value of a bank account is beyond the scope of this project, and would take a thesis of its own to calculate, it is difficult to provide accurate financial predictions and impact.

Figure 9. Financial Model - Conservative Scenario

	2019	2020	2021	2022	2023
Revenues	343,000.00 €	818,880.00 €	1,374,720.00 €	1,557,820.00 €	1,763,480.00 €
Costs					
Emission of cards	68,600.00 €	71,160.00 €	75,588.00 €	80,108.00 €	83,788.00 €
Content Acquisition Team	140,000.00 €	140,000.00 €	140,000.00 €	168,000.00 €	168,000.00 €
IT and R&D Team	56,000.00 €	56,000.00 €	56,000.00 €	56,000.00 €	56,000.00 €
Servers	50,000.00 €	52,500.00 €	55,125.00 €	57,881.25 €	60,775.31 €
Initial Investment	50,000.00 €	- €	- €	- €	- €
Marketing expenses :					
Registration Campaign	57,125.00 €	59,981.25 €	62,980.31 €	66,129.33 €	69,435.79 €
Prizes	42,875.00 €	44,475.00 €	47,242.50 €	50,067.50 €	52,367.50 €
Total Costs	- 464,600.00 €	- 424,116.25 €	- 436,935.81 €	- 478,186.08 €	- 490,366.61 €
Profit / Loss	- 121,600.00 €	394,763.75 €	937,784.19 €	1,079,633.92 €	1,273,113.39 €
Payback Period (in years)	1.32				
Discount Rate	5%				
NPV					3,084,985.29 €

Source: Team own analysis

6. Limitations

Within this last section, the team decided to include all the limitations encountered during the work project, that might have had an impact in terms of quality regarding insights, hypotheses validation as well as answer to the challenges posed.

Testing/Experiments. Certainly, during the interviews and the validation process conducted by the team, not having the possibility to mention the real name of Bank Y, potentially affected in a negative way the credibility and the outcomes obtained from students. Indeed, the students' behaviors in the context of interviews were often hesitant and skeptical, especially as soon as the team mentioned the word bank.

Additionally, the Facebook group represented another constraint particularly for those who wanted to share their experiences due to privacy and credibility issues they have with such social media. Hence, testing the concept on Facebook influenced negatively the student's willingness to share and that is why the experiment failed, not because of the concept itself.

Sample. A further limitation encountered by the team was related to the sample quality. Since most of the people interviewed were friends of the team members - especially regarding the sharing aspect - is it possible and reasonable to assume that most of the contents shared by them on Flow, was mainly due to the friendship with the team members and not a real need. Hence, the reliability of the results might be biased in a certain extent.

Technological resources. The lack of tech skills and resources needed for the application of several features within the concepts developed, especially the Flow Assistant, might have affected the credibility and consequently the insights obtained by customers around this concept. Although, the interviews have shown an overall appreciation about the Assistant feature, insomuch that the team decided to include it into the final product, it has been impossible to validate the real relevance and impact of this feature since the team did not have the necessary technological resources to implement it in the Flow landing page.

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8. Appendix I

Table of contents:

Appendices I:

Appendix 1: Impact/Uncertainty Grid of external factors affecting Bank Y

Appendix 2: Impact/Uncertainty Matrix

Appendix 3: Banks' positioning Map: young customer focus and innovation/digital factors

Appendix 4: Major FinTechs players and strategies

Appendix 5: Map of the Student Journey

Appendix 6: Initial Hypotheses Customer Discovery 1st cycle

Appendix 7: Hypotheses Customer Discovery 2nd cycle

Appendix 8: Hypotheses Customer Discovery 3rd cycle

Appendix 9: Flow Digital Library concept board

Appendix 10: Flow Assistant concept board

Appendix 11: Flow Club concept board

Appendix 12: Hypotheses Customer Discovery 4th cycle - Facebook Group

Appendix 13: Hypotheses Customer Validation 1st cycle - Sharing customers side

Appendix 14: Flow final landing page

Appendix 15: Hypotheses Customer Validation 2nd cycle - Customers segment side

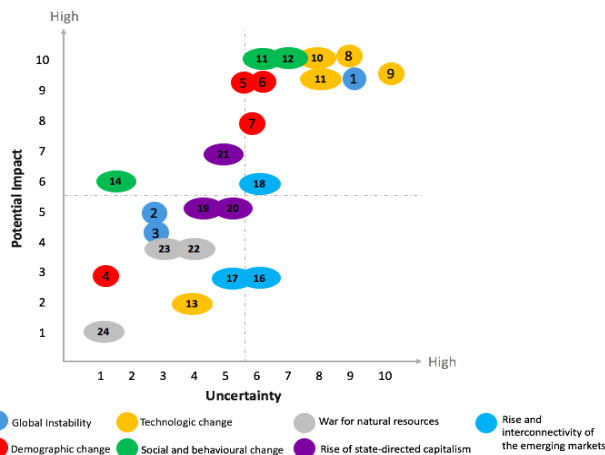
Appendices

Appendix 1: Impact/Uncertainty Grid of external factors affecting Bank Y

Assumption: to measure how impactful and uncertain is the factor, it was used a scale from 0 to 10 based on the desk research and team own analysis.

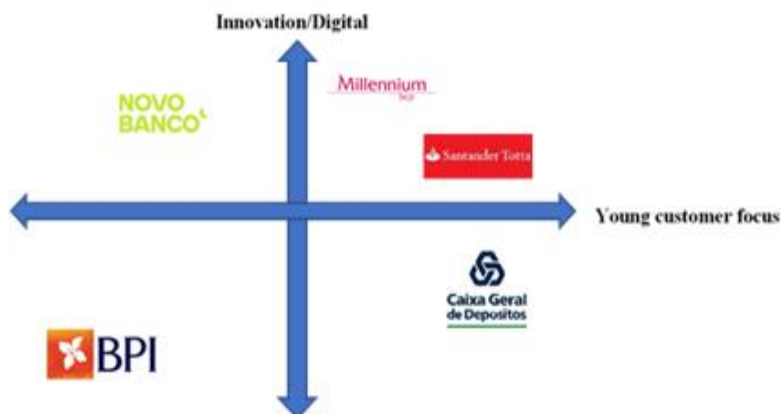
Factor	Global instability	I	U	Factor	Social and behavioural change	I	U
1	Regulatory environment	9	9	12	Change in consumer behaviours	10	7
2	Fiscal pressures	5	3	13	Consumer's expenditures	4	2
3	Political and social instability	4	3	14	Urbanization	6	2
Demographic change				15	Customer-centricity	10	6
4	Immigration	3	1	Rise and interconnectivity of emerging markets			
5	Individual life expectancy	9	6	16	Political and economic uncertainty	3	6
6	Ageing populations	9	6	17	Emergence of megacities	3	5
7	Families' structure	8	6	18	Trade	6	6
Technological change				Rise of state-directed capitalism			
8	Disruptive technologies	10	9	19	State intervention	5	4
9	Cybersecurity	9	10	20	Foreign investments	5	5
10	Rise of Bigtechs and Fintechs	10	8	21	Distrust of major stakeholders	7	5
11	Artificial Intelligence	9	8	War for natural resources			
				22	Climatic changes and sustainability	4	4
				23	Natural disasters	3	4
				24	Green environment	1	1

Appendix 2: Impact/Uncertainty Matrix



Source: Team own analysis

Appendix 3: Banks' positioning Map: young customer focus and innovation/digital factors



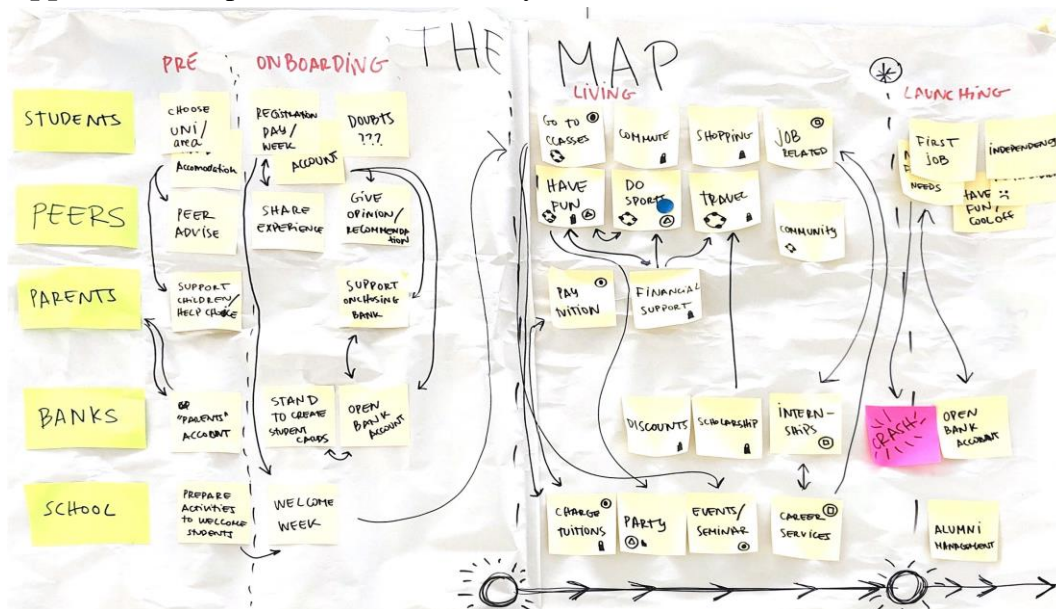
Source: Team own analysis

Appendix 4: Major FinTechs players and strategies

CHALLENGER BANK STRATEGIES & SERVICES MATRIX						
	Atom bank	TANDEM	STARLING BANK	monzo	N26	Revolut
FINANCIAL PRODUCTS & SERVICES						
Current Account Deposits	x	x				2018 Rollout
Loans	✓	x	x	x	✓	x
Mortgages	✓	x	x	x	x	x
Insurance	x	✓	✓	x		✓
Credit Cards	x	✓	x	x	x	x
Crypto Currency Exchange	x	x	x	x	x	✓
B2B Accounts	✓	x	✓	x	✓	✓
REGULATORY LICENSE						
Bank Charter	✓	✓		✓	✓	Applied Q4'17
2018 ROAD MAP						
2018 Expansion Markets	🇩🇪	x	x	🇺🇸	🇬🇧 🇺🇸	🇺🇸 🇸🇪
2018 Key Product Initiatives	N/A	Integrate acquired Harrods Bank	Building out API platform for fintech partnerships	Transitioning customers from pre-paid cards to current accounts	N/A	Boardless Debit Cards Business Accounts Crypto Currency Wallets

Source: CBInsights, 2018

Appendix 5: Map of the Student Journey



Source: Team own Analysis

Appendix 6: Initial Hypotheses Customer Discovery 1st cycle

	Description	MSC	Cycle 1	Go/No Go
1	Flowers are more likely to wait until the last minute to make decisions.	60%	90%	Go
2	Flowers are more likely to ask peers for inspiration.	50%	60%	Go
3	Flowers are more likely to ask peers for guidance.	50%	40%	No Go
4	Flowers are not used to take firmly decisions.	80%	60%	No Go
5	Flowers are not sure what they want to do.	65%	70%	Go
6	Flowers prefer to get advice in a social way.	70%	70%	Go
7	Flowers do not like to make efforts in looking for information.	60%	90%	Go
8	Flowers tend to miss opportunities because they are lazy people.	50%	80%	Go
9	Flowers are overwhelmed with the information.	40%	60%	Go
10	Flowers feel anxious when the decision-making time comes.	50%	60%	Go
11	Flowers like to share their experiences.	60%	70%	Go

12	Flowers are likely to download the app if they feel part of a community.	50%	30%	No Go
13	Flowers are likely to use an app rather than a website to use the service.	50%	70%	Go
14	Flowers are more visually captured by a mupi rather than a mail.	60%	60%	Go
15	Flowers interact better with ambassadors rather than the formal office.	60%	50%	No Go
16	Flowers are likely to download the app at the registration stand.	75%	90%	Go
17	Flowers are likely to download the app if get benefits from adding one friend.	65%	20%	No Go
18	Flowers are likely to download the app if they are suggested from friends.	75%	80%	Go
19	Flowers are likely to hear about flow via social media, such as Instagram, Facebook, among others.	60%	90%	Go
20	Flowers are likely to continue with a service, if they are rewarded for frequent use	60%	20%	No Go
21	Planners are usually decided person.	80%	100%	Go
22	Planners are likely to use different sources to get detailed information.	80%	100%	Go
23	Planners do not rely on other to make decisions.	80%	50%	No Go
24	Planners search in University website.	60%	75%	Go
25	Planners like to share their experiences.	50%	50%	Go
26	Planners are likely to download the app at the registration stand.	75%	100%	Go
27	Planners are likely to download the app if they belong to a community.	60%	60%	Go
28	Planners prefer an app rather than a website to access the service.	60%	100%	Go
29	Planners are visually captured by a mupi rather than a mail.	60%	75%	Go
30	Planners interact better with ambassadors rather than the formal office.	60%	75%	Go
31	Planners are likely to download the app if they are suggested from another friend.	75%	100%	Go
32	Planners are likely to hear about flow via social media, such as Instagram, Facebook, among others.	65%	25%	No Go
33	Planners are likely to download the app if get benefits from adding one friend.	70%	50%	No Go

Source: Team own analysis

Appendix 7: Hypotheses Customer Discovery 2nd cycle

	Description (Elective courses)	MSC	Cycle 2	Go/No Go
1	Flow-rs are undecided about which courses to take.	60%	95%	Go
2	Flow-rs base their decisions on their peers' feedback.	70%	95%	Go
3	Flow-rs do not check the syllabus.	45%	30%	No Go
4	Flow-rs do not rely entirely in the syllabus.	50%	50%	Go
5	Flow-rs use other sources to analyze the course.	65%	95%	Go
6	Flow-rs look for inspiration (content of the course) when searching.	80%	90%	Go
7	Flow-rs look for guidance (bidding and evaluation methods of the course) after deciding the course.	45%	25%	No Go
8	Planners look for inspiration (content of the course) when searching.	60%	65%	Go
9	Planners look for more than one source of information when deciding.	90%	100%	Go
10	Planners are usually sure about which courses to take.	70%	75%	Go

11	Planners use institutional channels to decide on courses.	80%	95%	Go
Description (Erasmus/Exchange programs)		MSC	Cycle 1	Go/No Go
12	Flow-rs are not sure if going in exchange abroad is worthwhile.	70%	10%	No Go
13	Flow-rs are undecided about which country/university to go.	70%	90%	Go
14	Flow-rs ask friends about their experiences. (inspiration)	90%	100%	Go
15	Flow-rs need help with the process after deciding. (guidance)	50%	45%	No Go
16	Flow-rs go to student office to know what they need to do.	60%	50%	No Go
17	Flow-rs go to student office to get the contact of the <i>prior</i> students that went to that country.	40%	10%	No Go
18	Planners are usually keen to do an experience abroad	60%	95%	Go
19	Planners usually go to student offices to get the info they need.	80%	85%	Go

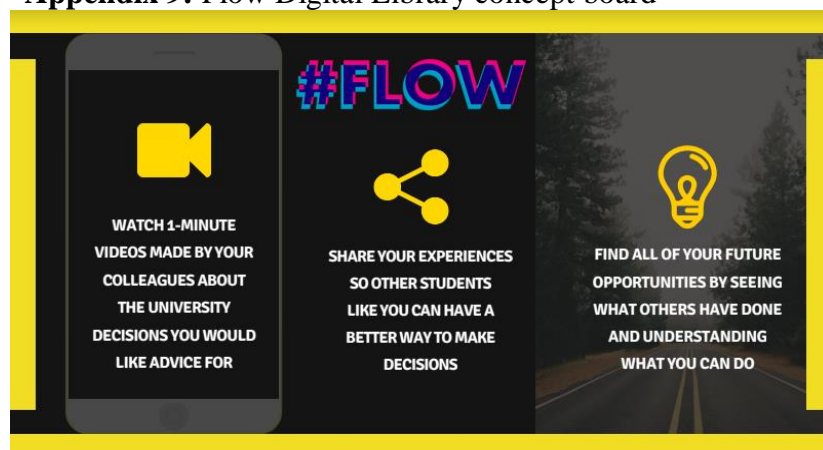
Source: Team own analysis

Appendix 8: Hypotheses Customer Discovery 3rd cycle

	Description	MSC	Cycle 3	Go/No Go
1	Students identify with the problem	90%	100%	Go
2	Students are likely to have positive reactions	50%	40%	No Go
3	Students understood the value proposition of Flow Club	50%	70%	Go
4	Students understood the features of Flow Club	40%	50%	Go
5	Students understood the value proposition of Flow Digital Library	50%	55%	Go
6	Students understood the features of Flow Digital Library	40%	45%	Go
7	Students understood the value proposition of Flow Assistant	50%	60%	Go
8	Students understood the features of Flow Assistant	40%	45%	Go
9	Flow Club is likely to solve the problem identified	60%	22%	No Go
10	Flow Digital Library is likely to solve the problem identified	60%	81%	Go
11	Flow Assistant is likely to solve the problem identified	60%	27%	Go
12	Students are likely to have other alternatives instead of Flow Club	40%	18%	No Go
13	Students are likely to have other alternatives instead of Digital Library	20%	4,54%	No Go
14	Students are likely to have other alternatives instead of Flow Assistant	20%	50%	Go

Source: Team own analysis

Appendix 9: Flow Digital Library concept board



Source: Team own analysis

Appendix 10 and 11: Flow Club (left) and Flow Assistant (right) concept boards



Source: Team own analysis

Appendix 12: Hypotheses Customer Discovery 4th cycle - Facebook Group

	Description	MSC	Cycle 4	Go/ No Go
1	Students are willing to share without benefits.	30 %	0%	No Go
2	Students are only willing to share with benefits.	50 %	0%	No Go
3	Students are likely to join the Facebook group.	60%	90%	Go
4	Students are likely to upload the video.	40%	0%	No Go
5	Students share the idea with their friends.	20 %	0%	No Go
6	Students prefer to share a video with a pros and cons structure.	30%	0%	No Go
7	Students prefer to share a subjective video based on their experiences.	30%	0%	No Go
8	Students prefer to do a small description along with their video.	40%	0%	No Go
9	Students like to share more than one video about the same topic.	30%	0%	No Go
10	Students do not fear posting a video of themselves in a platform.	40%	0%	No Go
11	Students are not afraid of contacting them after the video.	60%	0%	No Go

Source: Team own analysis

Appendix 13: Hypotheses Customer Validation 1st cycle - Sharing customers side

	Description	MSC	Cycle 1	Go/No Go
1	Students are willing to share without benefits.	30 %	100%	Go
2	Students are only willing to share with benefits.	50 %	-	
3	Students are likely to share because someone talked with them about Flow and ask to share their experience.	50%	100%	Go
4	Students prefer video rather than other format.	60%	81%	Go
5	Students prefer voice message rather than other format.	50%	23%	No Go
6	Students prefer presentation rather than other format.	40%	0%	No Go
7	Students prefer to write rather than other format.	30%	4%	No Go
8	Students prefer to share a video with a pros and cons structure.	30%	0%	No Go
9	Students are most likely to share the topics option.	40%	86%	Go

10	Students are most likely to share a subjective experience.	40%	14%	No Go
11	Students share more than one video about the same topic.	30%	4%	No Go
12	Students fear posting a video of themselves in a platform.	40%	27%	No Go
13	Students do a small description along with their video.	40%	0%	No Go
14	Students understood well the concept through the website.	55%	80%	Go
15	Time, for students is a constraint to make videos	60%	46%	No Go
16	Students are not afraid of contacting them after the video.	60%	77%	Go

Source: Team own analysis

Appendix 14: Flow final landing page



Source: Team own analysis

Appendix 15: Hypotheses Customer Validation 2nd cycle - Customer segment side

	Description	MSC	Cycle 2	Go/No Go
1	Students are likely to click on the “like” of the video.	40%	0%	No Go
2	Students are likely to go more than one time to the platform.	35%	15,76%	No Go
3	Students are likely to open all pages (assuming that we just have 3 pages: home, discover, share now)	55%	33,16%	No Go
4	Students are more likely to hear about Flow through the Facebook channel rather than direct contact.	40%	72,62%	Go
5	Students are more likely to watch a video when it is shared rather than the landing page.	30%	33,2%	Go
6	Students prefer to watch in video format about other experiences.	40%	48,2%	Go
7	Students prefer to watch in presentation format rather than other experiences.	40%	33,2%	No Go
8	Students are likely to create a Flow account in the platform.	30%	3%	No Go
9	Students are mainly university students.	80%	91,47%	Go
10	Students value the most the benefits/discounts provided.	35%	47%	Go
11	Students are more likely to go to the ‘discover’ page rather than the ‘share now’ page.	40%	46,7%	Go
12	Students are likely to access Flow website through mobile devices rather than computer	50%	59,17%	Go
13	Students explore the platform (more than 3 page interactions)	30%	37.2%	Go
14	Students that open videos are likely to open others (maximum success criterion - drop rate after one video)	40%	24.3%	Go
15	Are likely to see other videos beyond the one share on Facebook	60%	16.3%	No Go

Appendix II

Table of contents:

Appendices:

Appendix A: Extended External Analysis

Appendix B: Market Share of the Five Major Banks in Portugal

Appendix C: Blue Ocean Analysis – Strategy Canvas

Appendix D: Customers willing to consider buying financial products from BigTechs

Appendix E: Customer segment: High School

Appendix F: Customer segment: Recent-graduated

Appendix G: Pattern of the decision-making process of a student

Appendix H: Storyboard

Appendix I: Initial Landing Page

Appendix J: Questionnaire used when testing the solution in the sprint week

Appendix K: Validation Board

Appendix L: Survey questions

Appendix M: Flow - Facebook group.

Appendices II:

Appendix A: Extended External Analysis

Factor #2 and #3. Global Instability: In recent years, mainly after the financial crisis, the world has become very unstable and this global instability makes the future difficult to predict. The fiscal pressures have been a negative impact on global financial stability. Governments are implementing austerity measures and new taxes that might influence the growth and profitability within the financial sector. In addition, the fiscal measures are forcing some economies to the brink of default, threatening the solvency of weakened banks, and making capital markets more volatile (Pwc, 2012).

In terms of political and social instability, there are many factors that are shaking it: corruption, unemployment, fiscal austerity, and food and fuel prices.

Factor #4. Demographic change: Immigration in Portugal has been intensified during the last years. The boom was from 2014 to 2015 that the immigrant population almost double (19,516 people to 29,896 people respectively). The predominant age group was between 25-29 years old and the nationality was Brazilian people (Pordata, 2018 and Relatório SEF, 2018). Banks might notice their presence in Portugal since people will need the help of financial institutions in terms of opening an account, savings accounts, buy a house or other financial aspects.

Factor #13 and #14. Social and behavioural change: People behaviours are changing and companies must have to adapt to the new context. For example, in the last year, the overall private consumption in Portugal increased by 7%, being higher than the average of Western Europe. However, regarding e-commerce, Portugal represents a small value compared to Europe, 5% and 25% respectively yet (22.^a Conference of GFK, 2018).

In Portugal, in 2017, 64.56% of the population was concentrated in urban areas (Statistic, 2018). By 2050, 60% of the world population will live in urban areas (Pwc, 2015). People are

moving to cities because these areas have more jobs opportunities, stronger education resources, exposure to culture and a more diverse environment. The most powerful cities are becoming the world economic centers. The major investments are focusing there and the other regions are being left behind.

Factor #16, #17 and #18. Rise and interconnectivity of the emerging markets: In the past years, emerging markets - named by SAAAME (South America, Africa, Asia, and the Middle East) have seen an impressive growth. The fast market development is leading to a radical shake-up in the competitive environment as well as in the rise of opportunities for business. However, the main issue that arises from this development is related to the intensity of trade between these markets, being the trade flow much higher than with the other markets.

The global financial crisis was an opportunity for these markets since they continue to expand and grow while the other countries were stalled. With that, many businesses, including financial services, gained market shares and importance. For example, the world's two largest banks by market capitalisation are based in China (Pwc, 2012).

In this way, Western financial institutions need to find ways to have a dominant presence in these markets to remain competitive. Although the new opportunities, there are many barriers to penetrate these markets: regulation, political and economic uncertainty and local competition, and lack of cultural understanding.

Factor #19, #20 and #21. Rise of state-directed capitalism: In 2011, Portugal went bankrupt and was needed the International Monetary Fund intervention. Since that moment, the state was under their measures. After the recession worldwide, the interest in Portugal has increased significantly not only because of its fantastic weather conditions but also its tax benefits. In 2009, Portugal introduced new taxes that benefit international people, looked to encourage direct foreign investment in order to reestablish back a good economic situation. Because of the economic situation, Portuguese society lost their trust in the state and also in

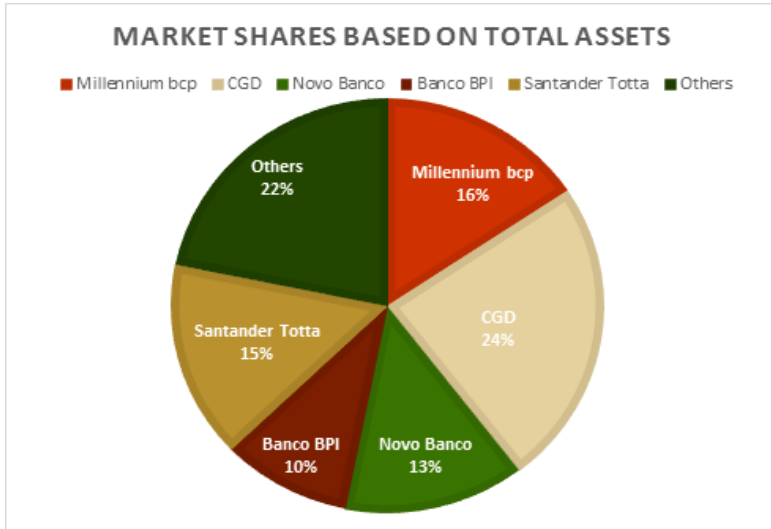
most of the financial institutions. Many Portuguese companies were financed by foreigners' funds to survive to the crisis, such as the bank, BES.

Another example is the Golden Visa provided by the government which basically is a fast-track for foreign investors from non-EU countries (Forbes, 2018).

Factor #22, #23 and #24. War for natural resources: Nowadays, global climate changes are one of the world's biggest concern. The effects on the environment are already observable: "Glaciers have shrunk, ice on rivers and lakes is breaking up earlier, plant and animal ranges have shifted and trees are flowering sooner" (NASA, 2018). Natural disasters are happening with more frequency and extreme weather events are increasing in intensity. According to Mark Carney, governor of the Bank of England, the climate changes can influence the banking industry in three different aspects: the physical risk, the liability risk, and the transition risk. The physical risk arises when society as well as companies are not ready for climate changes and so, cannot manage the situation. At a certain point, the threats will increase and insurances will become unaffordable, which in the worst-scenario can lead to increased defaults on mortgages or drop in property values. In this way, this risk is the impact on insurance liabilities and the value of financial assets. The second risk is related to the possible impact that could arise if parties who have suffered loss from the effects of climate change seek compensation from those they hold responsible. Lastly, the transition risks which are the ones that appear when people or companies need to adjust to the new changes (Sharanjit Paddam and Kate Mackenzie, 2016).

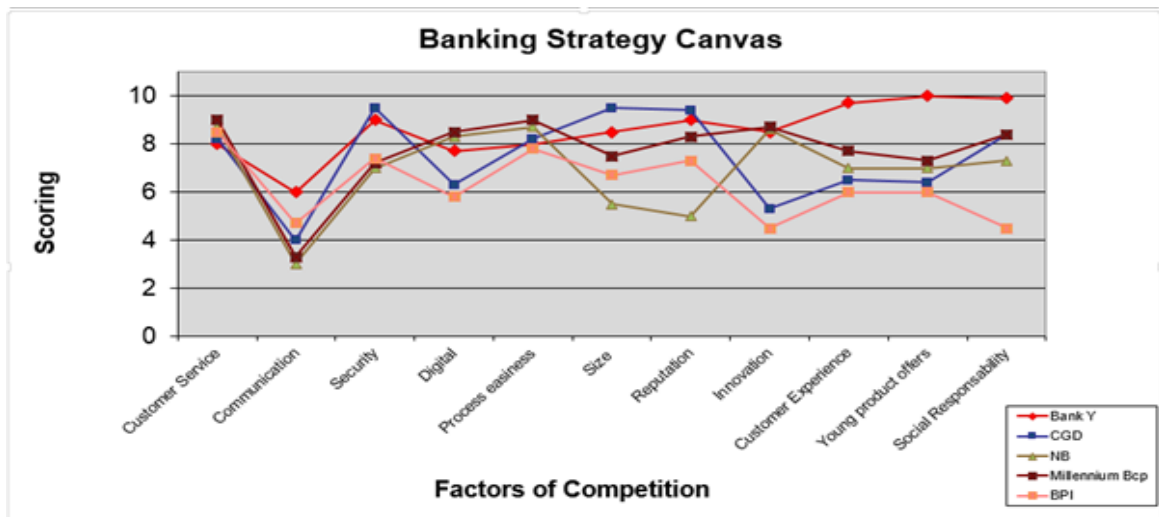
In addition, banks, like all other companies, should start to follow a sustainable and environment friendliness strategy such as paperless or energy management.

Appendix B: Market Share of the Five Major Banks in Portugal



Source: Associação Portuguesa de Bancos 2017

Appendix C: Blue Ocean Analysis – Strategy Canvas

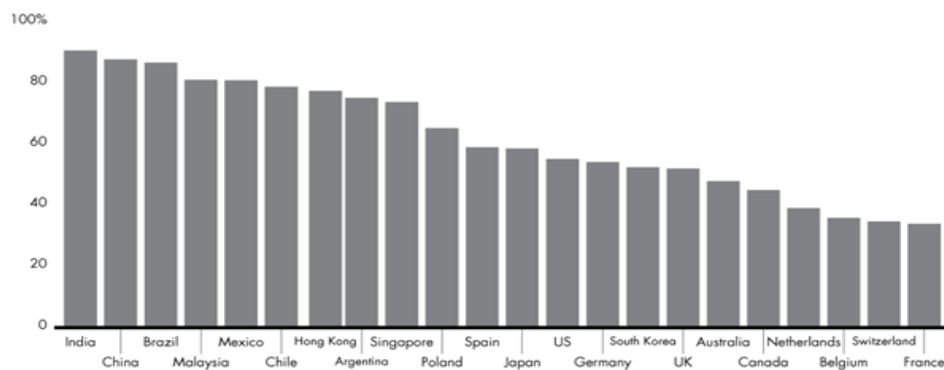


Source: Insights from Bank Y and Team own analysis.

Appendix D: Customers willing to consider buying financial products from BigTechs

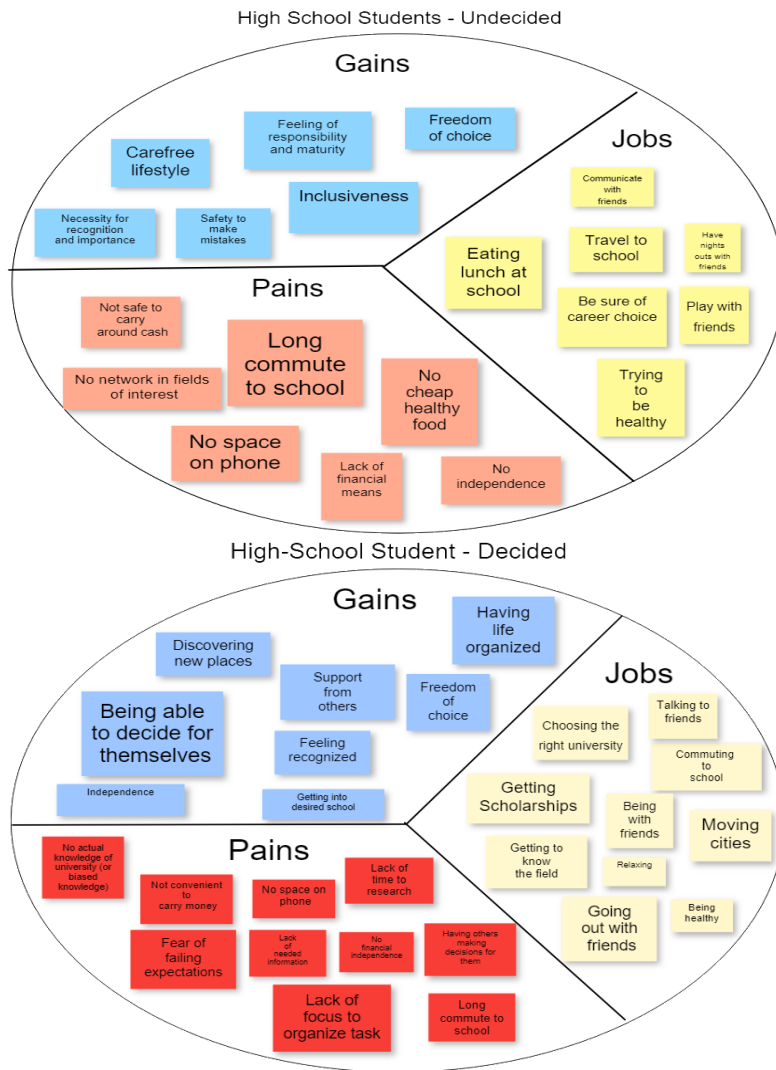
Many customers would consider buying financial products from technology firms they already use

Percentage of respondents who would be open to a new financial offering from an established technology firm



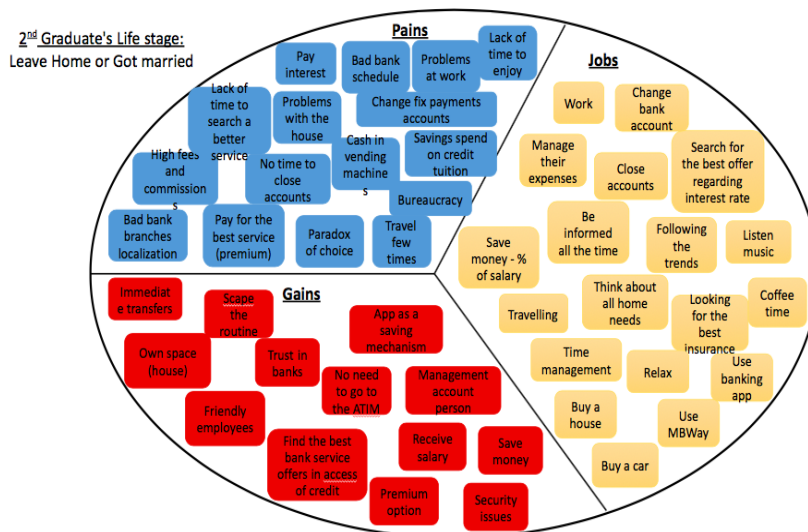
Source: Bain/Research Now Customer Loyalty in Retail Banking Survey, 2017.

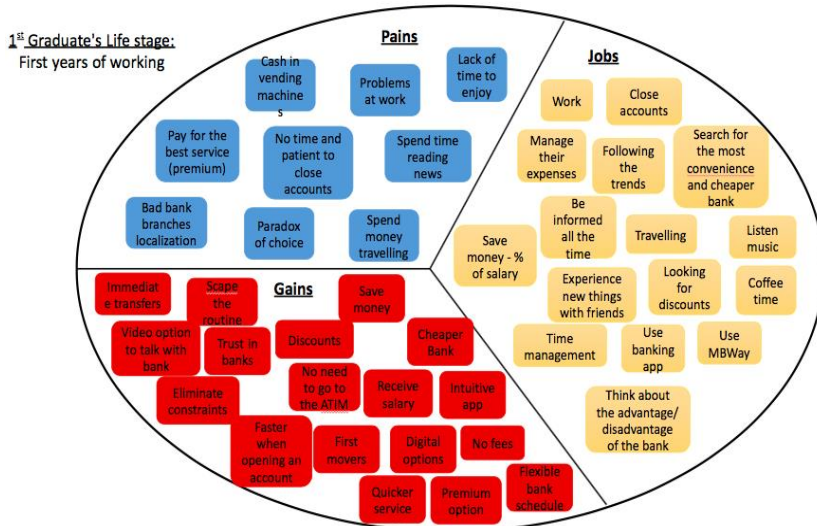
Appendix E: Customer segment: High School



Source: Team own analysis

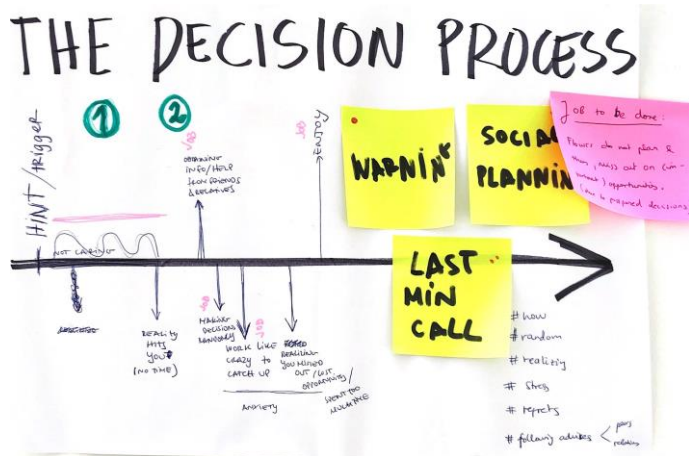
Appendix F: Customer segment: Recent-graduated





Source: Team own analysis

Appendix G: Pattern of the decision-making process of a student



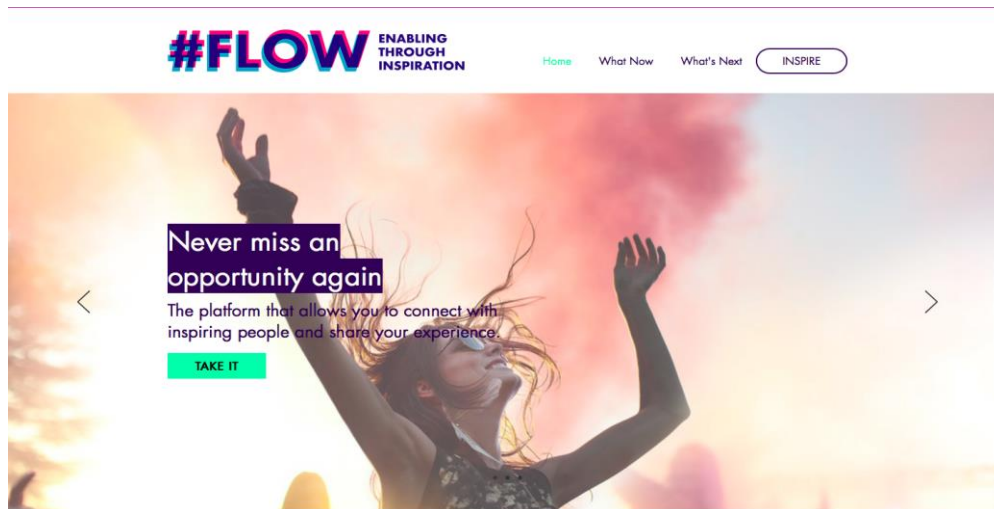
Source: Team own analysis

Appendix H: Storyboard



Source: Team own analysis

Appendix I: Initial Landing Page



Source: Team own analysis

Appendix J: Questionnaire used when testing the solution in the sprint week

Questions	Customer Profile
1	Tell us about yourself, age, background, among others.
2	How was the transition from the high school to university?
3	Did you change the way how you organize yourself?
4	What do you usually do to get away from your studies?
5	Do you often miss deadlines?
6	What are your main concerns during the semester?
7	Did you already think about what are you going to do next?
8	What else do you do apart from studying?
9	When was the last time you had to plan something?
10	How did it go? How did you feel about it?
11	What was the last challenge that you went through? Did anything go wrong?
Questions	Mood Board Presentation
1	Could you please think aloud as you scroll down?
2	What do you think the solution would be here?
3	How you feel about the presentation?
4	What did you get from it?
5	What do you think it says about and solve?

6	Have you had this happen to you or to someone else you know?
7	How often?

Questions	Demo
1	Could you please think aloud as you navigate through the platform?
2	What do you think about the features?
3	Was it easy to understand its features and how it works?
4	What are you looking in a platform like this one?
5	Do you feel that the platform and the mood board are connected?

Questions	Debriefing
1	What did you feel about this concept?
2	What did you like or dislike the most?
3	How would explain or show this concept to someone else?
4	If you had to change or add anything what would it be?
5	What is the closest alternative concept you might think of?

Source: Team own analysis

Appendix K: Validation Board

The Validation Board is a tool for tracking and testing assumptions. It includes sections for hypotheses, experiments, and results. The 'Results' section is a 6x2 grid for tracking 'Invalidated' and 'Validated' outcomes. A central graphic encourages getting out of the building to test assumptions.

Source: Lean Startup Machine, 2018

Appendix L: Survey questions

QUESTIONS

RESPONSES

112

Personal Information

This section is meant to obtain more information about the university student segment, according to the way students face decisions

In what phase of studies are you ? *

- On my way to university
- Bachelors
- Masters
- PhD
- Working
- MBA

Where do you study ? *

1. In my hometown
2. I changed city to study
3. I changed country to study

With which of the two sentences do you identify more ? *

	1	2	3	4	5	
I tend to take decisions on-the-spot, or in a short period	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I take time to think about a decision I need to take

Question *

	1	2	3	4	5	
I do a lot of research before a decision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I take decisions based on my gut feeling

Question *

	1	2	3	4	5	
I have a clear idea of what I want/need to do in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I'm unsure about my future

Question *

	1	2	3	4	5	
I normally ask for help or opinions when making decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I take decisions based on my own research

Important decisions

This section's purpose is to understand what are the most important decisions for a university student, and how one approaches them

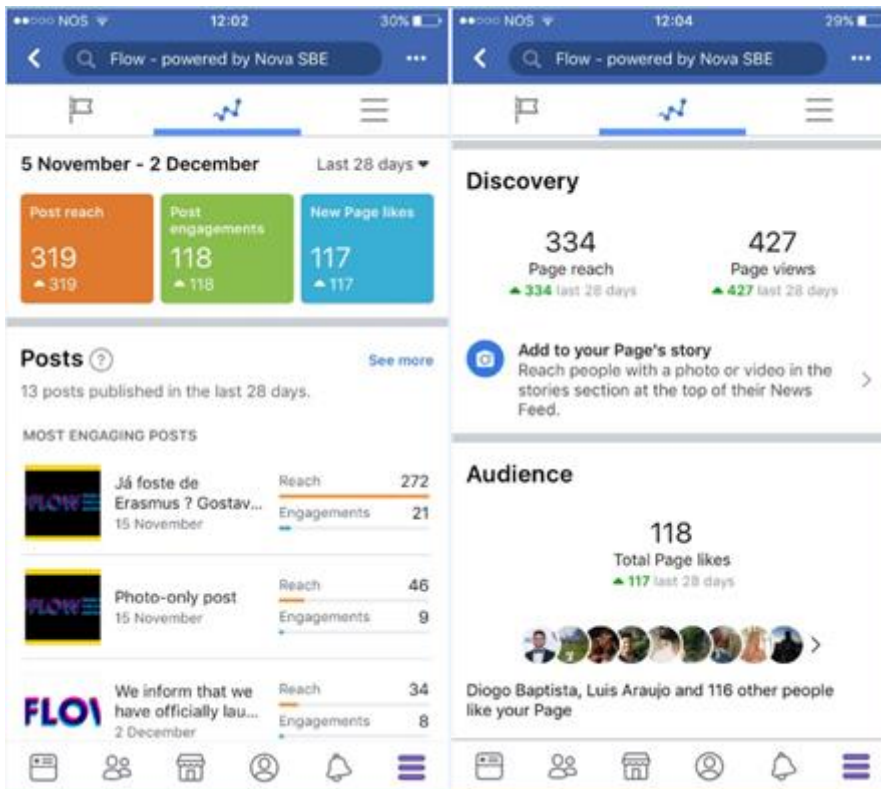
Order by magnitude of importance the following topics *

If there is more than one irrelevant topic for you, select the lowest values for them, and make sure to reference that fact in the open-ended question.

	1 - Less impor...	2	3	4	5 - Most impor...	Not relevant
Erasmus (choi...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choice of Mas...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What course t...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choice of elect...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extra-curricula...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Source: Team own analysis

Appendix M: Flow - Facebook group.



Source: Team own analysis

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