POLITECNICO DI MILANO

School of Industrial and Information Engineering

Master of Science in Management Engineering

A case about Nubank: the story of an innovative fintech in Brazil

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Academic Year 2018/2019

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Fintechs

Financial technology (fintechs) is a term used to describe companies that search for new technologies to improve and automate financial services and processes (1). Those enterprises are designed to threat, challenge and eventually disrupt traditional institutions through a clear focus on underserved market segments while providing a faster and/or better service.

According to PwC global report of 2016, more than 20% of financial businesses are at risk to fintechs by 2020 (2). Moreover, consumer banking and fund transfer are the segments most likely to be disrupted in the next five years (Exhibit 1).

Global FinTech Adoption Index of 2019 from EY conducted a research with

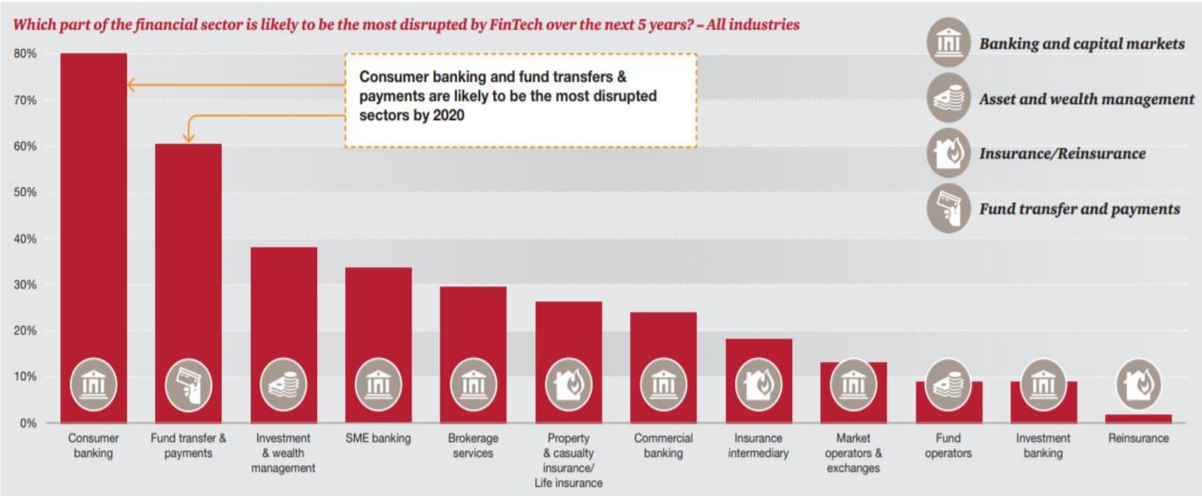

Exhibit 1: Probable disrupted segments by fin-techs. Source: PwC (2)

over 27.000 consumers in 27 markets about customer awareness of FinTech services into five categories: money transfer and payments, budgeting and financial planning, savings and investment, borrowing, and insurance (4) (Exhibit 2).

Exhibit 2 - Customer awareness of fintech services in each category. Source: EY (4)

Only 4% of the respondents were not aware of money transfer and payment services. Through a temporal analysis, there was an astounding increase of 18% (in 2015) to 75% (in 2019) of customers that reported using one or more providers in that category (4). According to the same survey from 2017, the ease of setting up a new account is key for its popularity.

In 2018, investments in fintech companies reached US$ 111.8 billion through 2.196 deals worldwide as shows by exhibit 2 ahead, representing a raise of over 120% in terms of value regarding 2017 (3). This was, in part, driven by a consolidation especially in the payments industry with the acquisition of companies such as WorldPay and Blackhawk Network and venture capitalist funding raised by Ant Financial and by Nubank, later discussed (Exhibit 3).

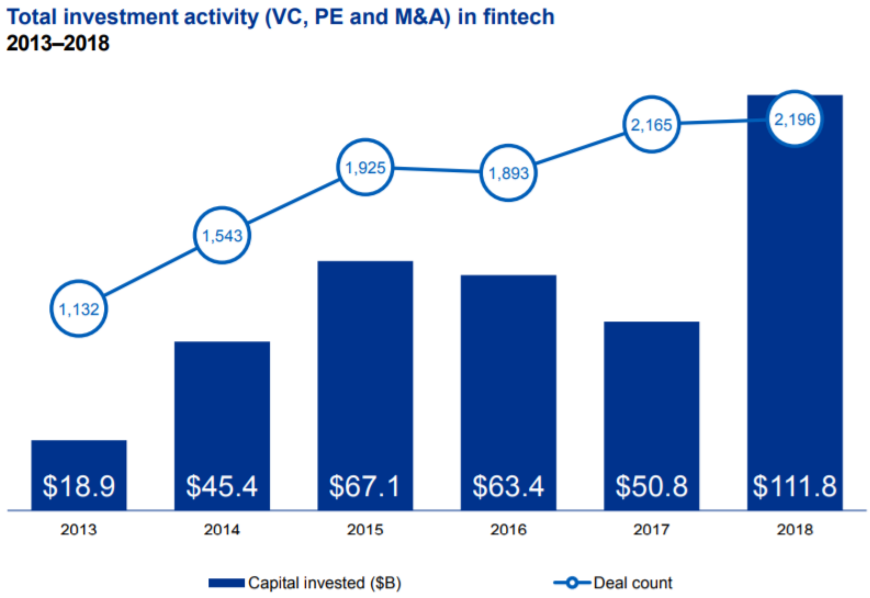

Exhibit 3 – Global investment in fintechs. Source: KPMG (3)

Fintechs in Brazil

Brazil has a prominent market for innovation characterized by a high level of concentration of the banking industry and emerging regulation regarding the fintech segment, which is now Latin America's largest.

Means of payment and credit for consumers are also the key leading segments where national fintechs operate in, according to a survey sample of 224 founders of financial technology companies across the country conducted by PwC in 2018 (5). This is in line with the global trends presented in exhibit 1 from the first section.

Regarding the geographical profile, Brazil's South and Southeast region concentrates most of the fintechs and the state of São Paulo alone hosts more than half of them (5). This centralization can be partially explained by the commercial structure available in those regions where businesses, companies' headquarters and suppliers are also located (6).

58% of the fintechs surveyed still have not reached break even (5). Even tough more than 50% of them presented growth over 30% when compared to 2016 and expected that same level of boost in their revenues for 2018 (5), this still represents one of the biggest issues to these companies especially Nubank, as later discussed.

Another great challenge for Brazilians fintechs regards their ability to raise capital. Only 57% reported receiving investments in a scenario where the venture capital is undersupplied and negotiations can take up to 15 months to complete, period in which many of them can fail due to the inability to attract investments. PwC conducted a research with the toughest difficulties for the 224 companies surveyed (Exhibit 4).

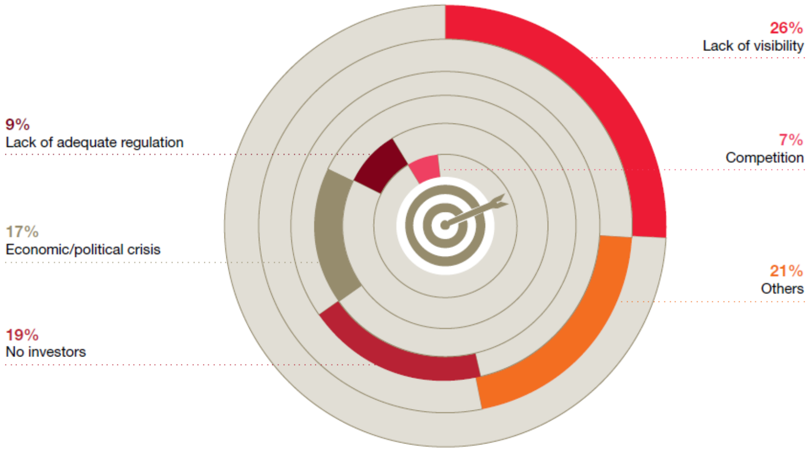

Exhibit 4 – Biggest challenges when raising capital. Source: PwC (5)

Lack of visibility (26%) and economic/political crisis (17%) represent the most cited ones. The former can be addressed through social media campaigns, celebrity endorsements and co-branding with more prestigious institutions (7). This can also be useful in understanding specific market needs to attract a larger customer base, as Nubank did. However, the latter presents a much tougher and enduring challenge. From 2015, the country suffered from a recession that contracted the country's economy by 7% and in the last two years, the economy recovery only grew at a pace of 1.1% a year (8). Once considered one of the BRICS superpower (emerging economies where economic growth rates would surpass developed economies by 2050), the economic performance of Brazil in the last decade shows otherwise while expectations of real GDP growth drop every week in 2019.

Another important point, considered one of the pillars for a healthy and productive Fintech ecosystem (4), regards the regulatory openness to specific policies designed for increasing credit availability, reducing taxation and easing businesses setup. Back in April 2018, Brazil's Central Bank issued a document that grants permission for electronic lending platforms to sustain loan transactions between borrowers and lenders through direct credit companies (4) such as Nubank, regulating of one their now expanding and possibly very profitable revenue streams.

Credit and Banking Market in Brazil

In 2017, Brazil cumulated a GDP of over US$ 2.1 trillions with a real growth of 1% and 209.5 million inhabitants. Moreover, the country had a banking penetration of 70%. Debit card ownership accounted for 59% over its total population and 58% of

Brazilians with more than 15 years old made or received payments in the last year, both areas of high interest to Nubank (4).

Besides a positive correlation there is also a causal relation between the development of the credit market and the economic growth of a country (9). Factors including legal security, creditor protection and transaction costs can play a key role in establishing a stable environment. In Brazil, problems related to information asymmetry, pricing disconnected from a proper credit risk analysis, elevated legal instability and lack of alternative sources of financing (9) are still very present and represent a high percentage of total costs.

Banking concentration in Brazil passed through an evolution since 2000 (Exhibit 5). In 2016 the share of the top five bank in the system reached 82%, second highest among all countries in the world (5). Despite being well regulated and highly developed, the banking industry is still very concentrated and there is a clear opportunity for fintechs to act as a decentralizing force.

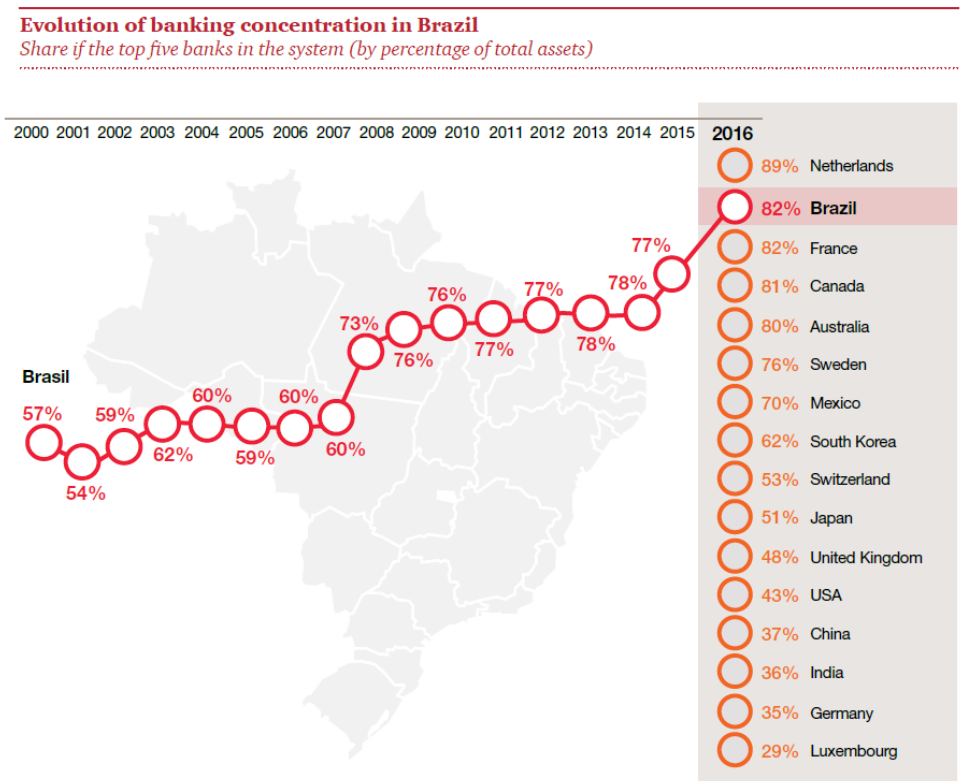

Exhibit 5 – Banking concentration in Brazil. Source: PwC (5)

Moreover, according to Central Bank of Brazil's data, financial institution's revenues grew 8.7% from 2015 and 2017 (5) following a trend where banks charge higher prices for their services while shutting down many physical branches. The main source of this increase was the raise in fees charged to individuals and to legal entities (Exhibit 6). Fintechs like Nubank can also take advantage on this by offering digital only services and lower tariffs to attract a large customer base.

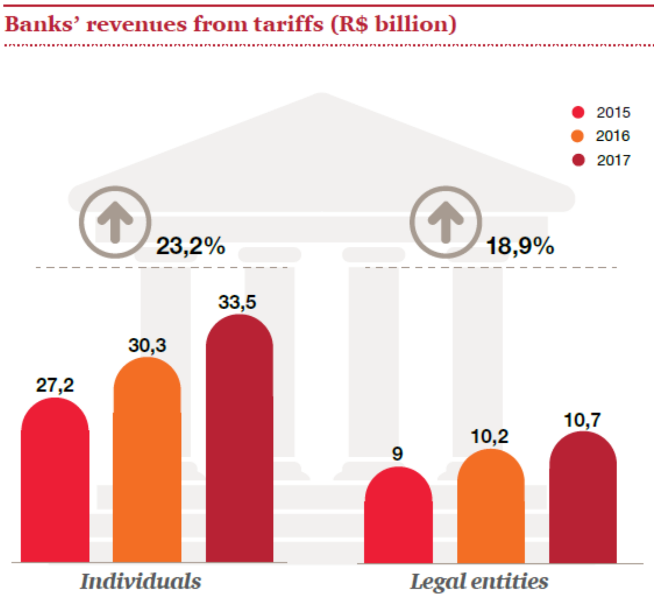

Exhibit 6 – Bank's revenues from fees charged to individuals and legal entities. Source: PwC (5)

Despite a high penetration of the banking system among the population, a very significant segment still does not have access to a bank account and there are many reasons for it (Exhibit 7). Nubank is targeting multiple problems at the same time with their innovative business model: offering higher credit limits for customers with lower income, reducing tariffs concerning the use of credit cards, providing entirely digital services available anywhere and sustaining a respectable reputation among its users.

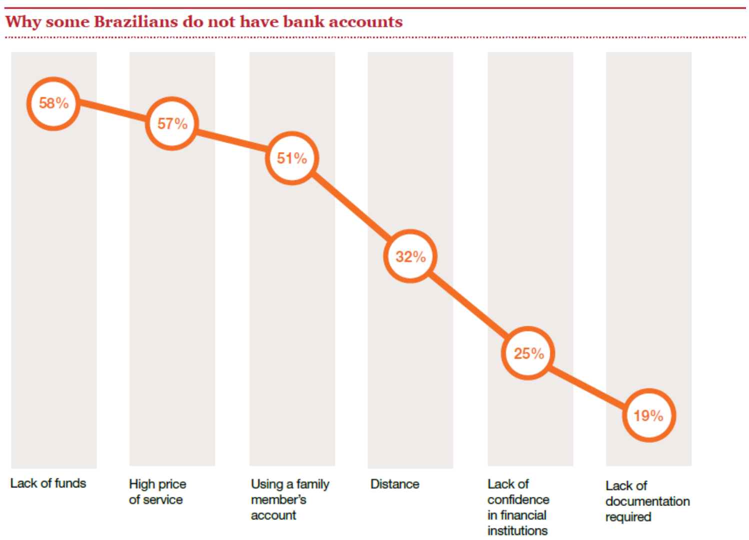

Exhibit 7 – Reasons for not opening a bank account. Source: PwC (5)

The Founders of Nubank

As presented before, the banking system, and specially the credit environment, in Brazil is very concentrated and complex for most of the parts involved in the value chain. But this chaotic scenario was the optimal place for David Vélez, Cristina

Junqueira and Edward Wible to create a start-up called *“NU Pagamentos”*, which label was *“Nubank”* and would drastically change the credit market in Brazil.

To fully understand the creation of *Nubank*, it’s important to acknowledge the reality of the founders during the born of the company. David Vélez, a Colombian who lived most of his life in the United States, graduated as management engineer at Stanford, and worked in investment banking and growth equity in major banks, such as Goldman Sachs and Morgan Stanley (10). After, Vélez worked in some private equity firms and in 2011 became partner at Sequoia Capital, a venture capital created in 1972 focused in the technology industry and one of the biggest in the sector; they invested in companies such as Google, Apple, Oracle, YouTube and many other pioneers in the tech industry (11).

David went to São Paulo in 2012 to develop a new branch of Sequoia in the South America, but due to the bureaucratic scenario he encountered to develop the business as he saw fit in São Paulo, Sequoia changed their strategy and took a step back on expanding their offices. But Vélez, with his financial and technological background, saw an opportunity to reshape the credit card scenario and decided to launch himself on the entrepreneurship world. He had the vision to exploit the opportunity in the credit card sector, where most of the Brazilian users had lots of problems and frustrations dealing with their banks, not understanding most of the fees charged and having bad experiences with the physical bank agencies.

As Vélez was scouting many Brazilian companies, he eventually got in touch with Cristina Junqueira, a management engineer from USP (Universidade de São Paulo) with an MBA from Kellogg School of Management, that was working in one of the biggest banks in Brazil, Itaú Unibanco. Her professional background started at BCG (Boston Consulting Group), giving her a strategy experience, and led her to enter the financial market at Itaú Unibanco, where she was responsible for handling consumer’s loans and credit card business (12). This position gave her vital insights from inside the credit card industry that enabled Nubank to leverage on most of the traditional downsides of a classic credit card holder (13).

Similarly to the initial contact Vélez had with Cristina, in 2010, he got in touch with Edward Wible, the last co-founder of Nubank, while scouting the financial market in Argentina, where Wible was trying to develop a urban transport start-up. Edward has a bachelor’s in computer science at Princeton and an MBA at INSEAD, and started his career also at BCG, working after in private equity firms focused in technology firms. He also tried to enter the entrepreneur world before joining Nubank, and all his experience created a solid background on technology development (14).

In that sense, Vélez built the perfect team to start his start-up. He had the idea and his background in investment companies and in the venture capital world, Junqueira had the knowledge from inside the credit card industry in Brazil and also insights towards the user experience in this area, and Wible had the entrepreneur and developer experiences. By combining all of these features, they were able to create Nubank, that had as its first goal the creation of a credit card service unlinked from a specific bank, being totally digital, user friendly and without most of the fees charged by traditional credit cards (Exhibit 8).

Exhibit 8: Edward Wible, Cristina Junqueira and David Vélez, at Nubank. Source: Nubank

The Development of the Company

Vélez and his team founded Nubank on the 6th of May of 2013. At first, the company needed to develop the app where the users would interact with their accounts, which was done by Wible and five other developers. The operationalization and brand creation were a responsibility directed to Vélez and Junqueira. To scale the business, it was essential to find funding, however the Brazilian start-up scenario was on an early stage, and specially towards a fin-tech, almost no investor was interested on a market so concentrated by huge and traditional companies. In that sense, the first few months were founded by investments made by the co-founders (15).

Since the Brazilian landscape wasn't the most enthusiastic towards Nubank, David used his network created by his past experience and decided to seek funding in international venture capitals. On the 5th of July of 2013, they received a investment of US$ 2 million, founded by Sequoia Capital and Kaszek Ventures, a venture capital (VC) that has a strategy aimed mostly on start-ups in the Latin America, which Wible and Vélez had been in touch in Argentina (16).

This initial investment, classified as a seed investment, was vital for the company, not only for the obvious financial aspects, but also to build some brand awareness and trust towards the company, since both of the VC's have a huge impact in the entrepreneurship world, and such investment was spread through the ecosystem. This enabled the contact between Nubank and Mastercard, the credit card brand that is still the one used by Nubank to perform all transaction needed, which became one of the key partners of the company, since having this partnership solved a key issue of the credit card system creation.

After the seed investment, the company could raise their operations, hiring more developers and staff to prepare all the legal and marketing aspects of the company, and in April 2014, they released an beta operation (mostly to friends, family and "*fools*") with their MVP: a international credit card where all the operations and communications are done via the mobile app. The initial features were notifications and additional information of all transactions made by the user on their app, the possibility to access their accounts limits and their invoices and all the support was made digitally (16).

After some adjustments and developments, Nubank seek a new round of investments, and again found aid with Sequoia Capital and Kaszek Ventures and also some angel investors. On 25th of September 2014, the start-up received the investment of US$ 14,3 million, which was classified as a *Series A* investment, and was mainly needed to enable the public release of their product.

The release was a success, and in less than a year, they were registering outstanding numbers: more than 200.000 credit card requests, national coverage, around 750.000 credit card transitions in 74 countries around the world (17). This rapid growth, generated by the avid millennial consumers (the company's main target), rose awareness towards the disruptive business model and attracted more attention to Nubank, leading to a new round of investments (*Series B)* of US$ 30 million on 2nd of July 2015, made Tiger Global Management, Sequoia Capital, Kaszek Ventures e QED Investors.

At start of 2016, Nubank had a user base of more than 500.000 users and wasn't being able to absorb the volume of new users, having a waiting queue for more than 75.000 users at that moment (18). To absorb all new users and expand their business, a new round of investments (*Series C*) was made on January 7 2016, raising more US$ 52 million, made by Founders Fund, Sequoia Capital, Kaszek Ventures e Tiger Global Management. After this new round, the company was valued at US$ 500 million, a huge achievement in the Brazilian start-up market, as it was the second national start-up to reach this threshold (19). These investments were directed to growth and the development of a new feature, where users could anticipate monthly payments and invoices and receiving discounts and benefits for doing so. Nubank was the first credit card to have this type of feature in the Brazilian credit card market and was highly appreciated for it.

With the success of the new feature, more investment was made into the start-up. By the start of December 2016, Nubank received a new round (Series D) of US$ 80 million, made by DST Global, Founders Fund, QED Investors, Sequoia Capital, Tiger Global Management e Redpoint Ventures. This round was specially interesting due to the participation of DST Global, a Russian venture capital that has a huge portfolio of tech companies invested, and again brought more international attention towards Nubank (20).

In 2017, the company decided to change their strategy towards the banking market: not only they would provide the credit card system, but Nubank started seeking ways to themselves become a proper financial institution. One of the new additions was a reward system based on points proportionally to the credit card expenditure. This type of reward system is common throughout the credit market, however the possible choices for Nubank's clients were much more tangible and required fewer "points" than the traditional competitors

On October 24, they announced "*Nuconta"*, which was the account service provided by Nubank. In this way, users could virtually leave the traditional banks and fully migrate to the digital platform. This service was offered without any taxation and, most importantly, didn't perform any form of background check or credit analysis into new users, which was a important step towards social integration and overall access to banking system to the entire population.

These changes into the business resulted in a huge expansion of the company, and a new (and until today, the last) round of investments (*Series E*), receiving a investment of US$ 150 million mainly from DST Global in March 1 2018, thus becoming the third Brazilian unicorn start-up (companies that have a valuation worth more than US$ 1 billion) (21). At this stage, Nubank had a user base of 3 million credit cards, with 13 million total requests for cards. This discrepancy was mainly due to the concern of the default rate Brazilians were showing after the 2008 crises, which hit Brazil harder around 2012.

After only 8 months of becoming the third unicorn in Brazil, Nubank was revaluated to US$ 4 billion after the acquisition of 5% of the company by Tencent, the biggest Chinese telecom provider, only evidencing the huge impact Nubank was having inside the Brazilian market and their strength as a business model. Their last big improvement was on December 2018, where the company disclosed the debit function for some users of the platform, also celebrating their endorsement as a financial institution recognized by the Brazilian Government (becoming a proper "bank"), thus reaching their new goal (22). Also in the end of 2018, Nubank became present in every Brazilian city (Exhibit 9).

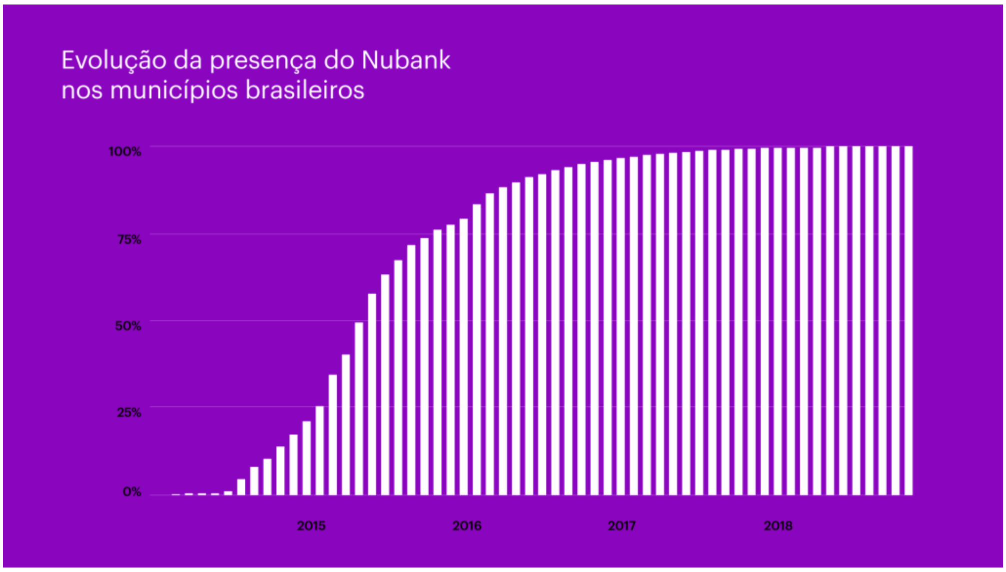

Exhibit 9: Nubank's presence in Brazilian cities evolution over time. Source: Nubank

The Business Model

Nubank's core proposition is to "end any complexity and return the financial control" to their users (23). By changing the relation between people and how people treat their money, the start-up proposes a different approach on banking and seeks to solve the most common problems that the Brazilian user has while dealing with banks and their finances.

To better understand how Nubank differs from their traditional competition, it's important to define the biggest "pains" that the consumer have on traditional banking systems:

- **Complexity:** even though internet banking is reducing some of the complexity in traditional banking system, the overall service is still highly bureaucratic and non-intuitive. Most of the general services (such as balance query, transaction history, etc.) are shown with a financial/banking perspective, not a user-based view and many times the overall client won't understand the information provided. Any other more complex service must be done in person in a physical agency (since most of the remote support is inefficient) and huge queues and the need to actually spend time solving these issues in person are commonly reported as one of the biggest problems in traditional banking (24).

- **Transparency:** charging fees for transactions, maintenance and credit card operations are the standard for conventional banks, however most of the time users don't understand why they are being charged and how to get this knowledge. Even though all users agreed to all fees in their contracts, the information asymmetry creates a shady perception towards banks, since fees are charged without much explanation and users are "hostages" of their contracts (25).

With these two main issues in mind, Vélez decided to develop Nubank and delivery a product that would handle both problems while aggregating the technological improvements banking services could have. All the solutions the company provides are related to at least of these main problems.

The Value Proposition

The main value proposition Nubank brings to the credit card world is to provide a credit card service, 100% digital, without annuities and fees from their clients, totally manageable by the user on their mobile application, while providing a personalized and agile service (23).

One of the most important points of the value proposition is the *100% digital* feature of Nubank. The client doesn't have any physical contact with the company, any communication is made through the app and all the billing is made also digitally, so there isn't any mailing involved on the service. This fully digital aspect of Nubank is not only a breakthrough regarding the environment, but also a huge cost reduction, since not having personnel to handle costumers in loco and having most services automatized reduces the payrolls and overall expenditure of the company.

This cost reduction is one of the reasons that enabled Nubank to create a credit card service without any fees to the users (26). Most cards charge annuities and even some maintenance fees over the months and due to the de-bureaucracy and cost reduction, creating a card without these charges is a strategic advantage that Nubank has over their competitors. It's important to notice that there are still fees over the default payments, however even these fees are smaller than the competition. Nubank charges an average rotative credit fee of 7.75%, while most of the traditional credit cards charges fees, on average, around 13% (27), which puts again Nubank in a better position in comparison to its competitors. The variance in the fees charged by the start-up goes around the analysis of credit the company makes on the user, supported by their historical data and gross average income (an information requested by the government).

The data used by the company to preform their analysis is also presented and can be used by the user in the user friendly and comprehensible mobile application, which in fact is a "control centre" for the consumer. In the app, the user can make any operation it needs, going from changing the password of their card to managing late payments and negotiate possible arrangements to solve defaults. By having a centralized operation, Nubank invest heavily on user experience and managed to create a simple and easy to use app, which differs from the traditional perspective consumers had on managing their accounts. The app was recognized as one of the best apps of the Apple Store, winning the 4th place as the best application on the Apple Store in 2015 (28).

This differentiation is also disclosed on the marketing and customer services front. By having all communication made through digital tools, personalization and a more friendly approach can be used and it's well perceived by the users. All their social media and communications channels have an informal and relaxed language, while also providing quick and effective solutions (29). From all 4642 complaints made on *"ReclameAqui"*, the most known site for online complaints in Brazil, only 1 complaint hasn't been answered, and the average time of response is 1 day and 13 hours (Exhibit 10).

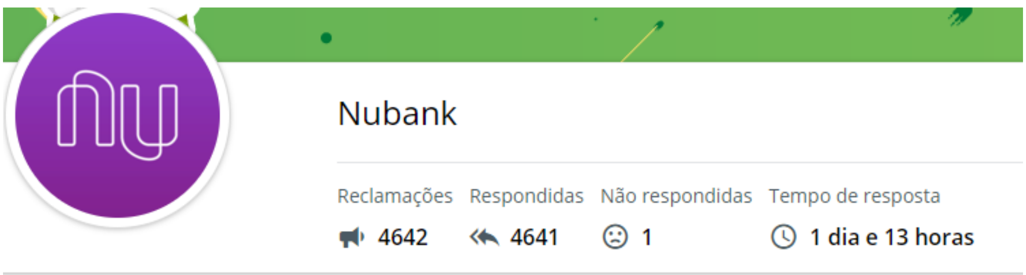

Exhibit 10: Nubank's complaints on ReclameAqui. Source: ReclameAqui website

The Customer Base

Nubank, with its distinct customer relationship guidelines, combined with their fully digital approach, targets a specific segment of the market that matches most of their strategies.

Since they are 100% digital and users operate their accounts through the app, firstly it's essential that customers have access to smartphones and are well familiarized with it to fully experience the features the company is providing. Secondly, to accept the concept of a digital bank in contrast to the traditional physical banks, users should be susceptible to the digital revolution this industry is undergoing. Finally, as most of the marketing and external relationships are made through social media, targeting users that are actively participating enabled a positive network effect, raising brand awareness through peers in contact with the campaigns (30).

With all these strategies in mind, the most effective and interesting target group was the *"millennials"*, people under 36 years old that were born in a digital era and were always in contact with technology. This specific group, which corresponds to 72% of Nubank's clients (31), as they were used to technologies, accepted more easily the shift from physical to digital banks, not having a lot of setbacks regarding the risks and problems a digital bank may have. Also, as they are always in touch with the technology frontier, being used to handle smartphones and applications made then the perfect target to start the development of the business.

It's also important to notice the income and the social class of the customers. At first, back in 2014, most of the customers (up to 70%) were in the upper classes, mostly because having a good smartphone to actively be the main control tool for banking services was a barrier to an extensive part of the population (32). After the popularization of the service and the overall access to smartphones in the Brazilian population, the customer base expanded to different ages, since the company conquered more trust in the market, and into lower income classes, mostly due to the little to no credit verification Nubank has while creating new accounts, being a reliable and cheap option for many that are rejected or aren't able to handle taxations from traditional banks. Nowadays, more than 6 million clients have the credit card in Brazil (33).

The Products and Services Provided

The development of the company is closely related to the expansion of their portfolio of services, and how they differ from the traditional competition in the sector. Since the beginning, Nubank expanded their portfolio to meet their customers needs and to reach out new segments of the market.

The first and main product of the company was the credit card (Exhibit 11) without association with any conventional bank and without any charges to the consumer. It was the first company to create a "free" credit card (the consumer had to pay the invoice at the end of the period as it would pay a regular bill) and also was pioneer on giving more liberty to the user by providing more options to control their expenses, such as setting credit limits to the card (the upper bond limit may be delimited by the company based on the credit risk analysis, however the user has control over the limit in the gap).

Exhibit 11: Nubank’s credit card, with its characteristic purple colour. Source: Nubank

This control is a great advance towards reducing the complexity of the banking system to the final user, especially because by setting their own limits, the customers are more aware of their expenses and less likely to become indebted (34). All the configurations and data tracking is made through the app, which focus on the comprehension of the user, thus being a vital differentiation, reducing even more the complexity of dealing with financial assets (Exhibit 12).

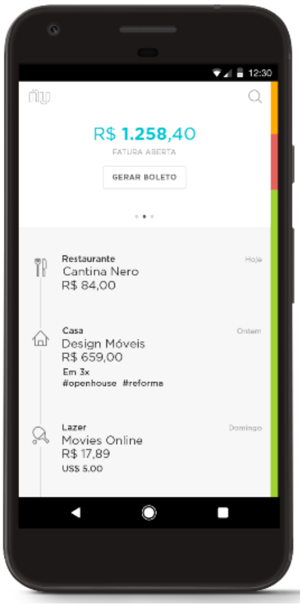

Exhibit 12: List of transactions on the mobile app. Source: Nubank

In 2016, the addition of the possibility to anticipate payments from their credit card expenses was a very positive addition to Nubank’s services. By offering the possibility to its users with discounts as a benefit, the company could raise their liquidity by having more money inflows and also giving even more control to their customers as they could decided when to pay their invoices as they see fit, while receiving incentives to do so (Exhibit 13).

Exhibit 13: Anticipation of payments menu page. Source: Nubank

In 2017, Nubank announced an additional service called “Nubank Rewards”, a subscription in which every purchase made with the card would grant points to the user, who could exchange it for gifts, discounts and other benefits within the service. It’s like most reward points Nubank’s competitors already practice on the market, but the “Rewards” proved to be a much bigger success.

One of the biggest reasons why this service outstands in this niche is the lifetime value of the points, since most of the competitors puts an expiration on their points, thus hampering the ability the user has to accumulate points in order to get a better reward. Also, most of the possible rewards users can get through the system are tailored based on researches made with customers and data analysis from the most common expenses throughout their user base. The start-up separates the possible benefits in two groups: “extra” rewards, aggregating everyday expenses such as taxi or Uber payments, cinema tickets, streaming services subscriptions, etc, and “flights and hotels” rewards, with airplane tickets, hotels and other non-ordinary expenses (Exhibit 14).

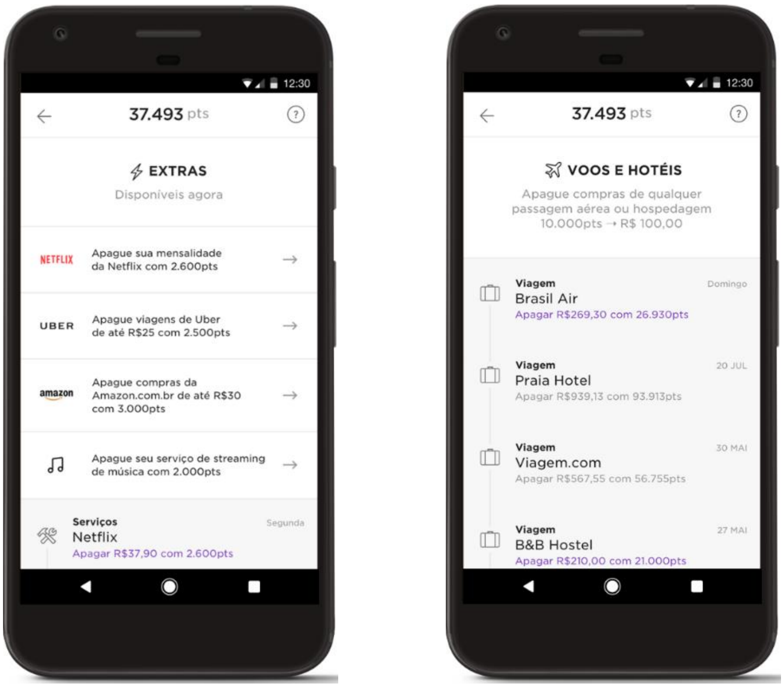

Exhibit 14: “Extras” and “Flights and hotels” Rewards page. Source: Nubank

With this strategy, “Rewards” covers not only those users that doesn’t spend that much in their credit cards, giving them the possibility to redeem smaller rewards, but also bigger expenders with the “dreams” category, still making it possible to both groups enjoy all the possibilities (35). The “Nubank Rewards” isn’t a free service, however. As one of the company’s pillars is the transparency, only users that want the service will receive it and then be charged to be part of this program. There are monthly and yearly subscriptions (R$ 19,00 and R$190,00, respectively). Finally, Nubank is working with Smiles, the biggest reward company in Brazil, to make it possible to interchange Nubank points towards this system, thus integrating the market.

Also, in 2017, Nubank took a step forward in the banking market as they launched “NuConta”, an account service open for everyone in Brazil. It works similarly to a regular bank account, and as in the credit card service, without any administrative fee or taxations to the final user. The credit card and the NuConta are disjoint services: you can have one without the other, however having both makes the experience more attractive, since some tweaks and synergies exists between both services. Nevertheless, there is an important difference between the essences of each one: to receive the credit card, Nubank makes a small background verification on the applicant, since it’s a credit operation and many risks are involved; however, to create an account on NuConta, there isn’t any review, virtually anyone could create one, and this aspect is quite interesting, since the risk is now taken by the user (as it is the one trusting its money on the institution), not by the “bank” (36).

Another interesting point from NuConta is its investment characteristic: all the money deposited in the account is being invested and yielding profits for the consumer. It’s a common practice to invest whenever there is some quantity halted, and in Brazil one of the most common investment is the “Poupança”, which is a title related to the government, that yields small amounts monthly, just over national inflation (which tends to be quite high on Brazil). NuConta, however, isn’t related to the same taxes index as the “Poupança” and generates more profits (37) (its bounded to the CDI index, which stands for Interbankary Deposit Certificate) (38), also having a daily liquidity, which makes it a much more flexible and profitable investment. In general, NuConta not only provides more agility and profits for its user regarding the investments, but also do it automatically, where in any other option the user should manually invest their money. It's a combination of a financial application and a banking account, with practicality and simplicity to the user.

The final product Nubank provides nowadays is the debt payment option. It's not available for every user yet, since it needs to be linked with NuConta and there were some restrictions to the legality of the operations, which Nubank surpassed when it got the "financial institution" title from the Brazilian government. It's basically the last step to compete directly with all services most traditional banks offer.

The Revenue and Cost Structure

One of Nubank's main aspect is the services without fees, raising some questions related to their possible revenue streams. There are two major revenue streams that the company relies on: interchange fees on every transaction made with the credit cards and taxes over bills and invoices which aren't payed when due. Also, there are some minor income streams, such as the subscriptions from "Nubank Rewards", but the company focus mostly on the previous two, as Cristina Junqueira stated (39).

Regarding the interchange fees, every transaction made in Brazil has 5% of their value directed to the institutions that enabled the purchase. As mentioned previously, this interchange fee is distributed between the company that produced the card machine (called acquirer), the credit card network (in Nubank's case is MasterCard) and the emitter banks, the spot Nubank has. This business strategy clearly shows the need to have a user base as large as possible, since with more users, more transactions and thus more income for the company. That's why most of the investment rounds were directed to the expansion of Nubank's user base, greatly leveraging from the network effect created (27).

Another major stream of revenue is the interest on credit card debts that the company charges when users doesn't meet deadlines. The rotative rate Nubank charges is directly related to the type of client who is in debt: if the customer is a good creditor, the rate could go as low as 4%, if not, up to 13%; the average practiced by the company is 7.75%. In comparison, throughout Nubank's traditional competitors, the average rotative rate is 13%, indicating that competitors tend to receive more income through this source of revenue. The average default rate in Brazil is 8%, which is quite high in comparison with other countries (40), so, even though Nubank receives more from the interchange fee, the defaults are still an important revenue stream.

With this information, one can say that Nubank's revenue streams are proportionally smaller than its competitors, which is confusing at first. Any major bank in Brazil collects the interchange fees, charges higher rotative fees on credit debts and also charges annuities, so in general traditional banks have a higher revenue per client, generally speaking. So how can Nubank still be a threat to the traditional banking system and a strong competitor in the market?

Even though the revenue stream is somewhat smaller, the start-up thrives due to their lean cost structure. As mentioned before, Nubank is 100% digital regarding their relationship with clients. This removes the need to have physical agencies and personal dedicated to these locations, aspect that severely reduces the cost structure. The start-up currently has only one office, an eight-store building in São Paulo, holding 1.300 employees (41), where all the operational and administrative branches work.

Another important aspect of their cost structure is the client acquisition cost, expenses related to marketing and promotions with the objective to capture more market share by capturing new costumers or, most commonly, by “stealing” from competition. First of all, Nubank thrives as it can gather new costumers easily, since theses users can be from two main groups: young adults that are entering the banking market now and those who weren’t approved by regular banks to have a credit card or a bank account, mostly due to their low income and high credit risk.

The first group is easily captured by Nubank due to their high acceptance of the company by its digital presence, where young people are mostly present; the second group is absorbed by the much less rigid risk verification for the credit card and the no verification bank account that NuConta provides. In that sense, Nubank already have a cost reduction in acquiring new costumers since they explore areas most traditional banks neglect.

Regarding capturing competitors’ client base, Nubank also have a good positioning, mostly due to their network effect and great brand recognition. The average cost for a traditional bank to gather a new costumer varies between R$ 150,00 and R$170,00, whereas Nubank have an approximate cost of R$110,00 since the brand is seen as an innovative and revolutionary option (42). Despite the absorption of new users, most of the Nubank users that migrated from other banks don’t fully commit to it, as there are still some doubts regarding the long-term success of Nubank. In that sense, Nubank is not only putting effort to expand their user base, but also to make their users fully commit to the company and move definitively to their services.

The Customer Relationship

As one of the principal traits, Nubank is operated 100% digitally, and thus their channels of communication are almost fully digital as well. It’s important to differentiate two main events in the customer value chain that are vital to Nubank’s business model: the support offered regarding their services and the acquisition of new customers. If a user has any problems, its main route to seek help is through the mobile app that offers two possibilities: a chat, initially automated but may be taken over by a employee if the problem is more complex, which is available 24 hours, and contact via phone, which is used only by a few users and mostly regards negotiation of unpaid debts (43).

Other common way of reaching the company is through social media, specially *Facebook* and *Instagram*. In both social networks, the company is very active and very responsive, always with a very friendly and light tone. The use of emoticons, “memes” (images or sayings that are trending in the moment into the internet) and a very human approach in their communications in social networks makes even the angriest consumer more relaxed while dealing with the company. Also, as it’s a public space, having this approach generates a positive marketing effect, specially when there is a specific event and Nubank leverages on it.

For example, one customer claimed, through the *Facebook* page that his lunch was charged twice in his account. After some days, the user received a toaster from Nubank (since his lunch was a sandwich), alongside with a letter of apologies due to the mistake and now enabling him to make his own lunch; the user was thrilled and started to be a full supporter of the company (Exhibit 15). It's not always that the company treats its complaints with this extreme approach, but whenever they do so, there is a huge marketing effort to spread this action to gather even more users (44).

Exhibit 15: Box of receivables with Nubank's toaster to their user. Source: Exame (44)

To gather new costumers, Nubank relies mostly on their brand awareness and their digital marketing efforts. The network effected created by the marketing promotions and the indication system users have to accelerate their friends' credit card approvals created a growing environment where, at the beginning, having the card was almost an achievement, and everyone wanted one. Nowadays with the higher popularity, this effect is somewhat smaller, but the unique relationship made the passive proliferation of the brand by the users on the of their biggest strengths regarding marketing issues. There were some physical campaigns, especially on Brazilian festive dates, such as Carnival, where Nubank was present and distributed souvenirs (sunglasses, bracelets and water bottles) to the crowd. It was, again, a marketing target to be present on social networks, since in these events most people publish their photos on their social medias, and thus spreading the brand in a subtle way.

The Competition

Inserted in the credit card and banking markets, Nubank’s competitors can be classified in two main groups: traditional banks and other fin-techs. The traditional competition, being present since the beginning of the company, have always been a threat to the start-up mostly due to the market power they have: in 2016, 82% of the market was controlled by only five players, and in since 2006 the concertation grew 32%. As credit card business thrives on gathering a large user base, the concentration of the market and transaction costs are heavy barriers to entry, thus making Nubank’s entrance in this market as something unusual. It was only with the success of the company that other fin-techs started to grow in the Brazilian market, creating an interesting effect on the market, which saw many new competitors entering the previously stable market in a very short time (45).

Regarding the traditional banks in Brazil, there are five players that are notably worth mentioning, since they hold most of the market share: Caixa Econômica (32% of the market in 2017, considering people’s credit operations only), Banco do Brasil (19%), Itaú Unibanco (12%), Bradesco (10%) and Santander (9%). Most of these banks offer similar services to the general public, having similar structures (with agencies and online services), nevertheless some differences are quite significant.

The first two players, Caixa and Banco do Brasil are controlled by the government, and their large user base is due to the majority of the Brazilian poor population being part of one of these banks, which offers lower taxes and some subsidies from the government are given through these banks. In general, these players aren’t seen as the best banks in terms of services provided and user experience, but they’re the most basic options for the majority of the population, having a huge impact in the overall scenario.

The other three players are private banks that have being present in the Brazilian landscape for decades, thus having a very strong brand positioning in the market. Their user base and services provided are quite similar, focusing on the medium to high tier of the Brazilian market and exploring the internet banking since the start of this trend, with a huge increase after the success of Nubank and other fin-techs. These are the most “direct” competitors of Nubank, since most of its users have a similar financial profile.

As Nubank became a huge hit, many other fin-techs started to raise in the Brazilian scenario, with three of them worth mentioning since they also had expressive growth in the past few years: Digio, Neon and Intermedium. The first one has smaller rotative fees than Nubank and doesn’t have a queue to create the credit card, however proved to be less user friendly and with fewer users; in general, it’s very similar to Nubank, with few differences in their services, mostly suffering from not being the first entrant in the market

Neon, differently from Nubank, offers only debt services, which changes the business model and the relationship with the customer, since there aren’t rotative fees as there isn’t any credit offered. To compensate the lack this revenue stream, Neon charges for withdraws and transfers between banks. It has been growing in the past year as an alternative to a more controlled card, since there isn't any credit, so the user won't generate any debt that it can pay.

Finally, Intermedium is the newest competitor and offers both credit and debit services. The user starts being able to use only the debt function, and after a credit review, the function can be added to the service. It is the competitor that offers the lowest rotative fee, which is raising some awareness, however the lack of an extensive client base in comparison to other fin-techs delays its growth (46).

Strategic Analysis of Nubank

Porter's 5 Competitive Forces Model

This model, developed by Michael Porter and first published in 1979, addresses the strategy formulation process by analysing the most relevant economic and social forces present in a given business area. As a tool for external analysis, it is useful for understanding the relation between the organization and the environment where the former is inserted in.

Assuming that the competition is driven by the industry structure (i.e. the number of players in a particular market) and that the business area's attractiveness is inversely proportional to the level of competition in the environment, Porter's model represents a methodology to evaluate the average profitability and growth of those companies (47). 5 competitive forces are considered, useful for identifying threats and opportunities later used in the SWOT analysis (Exhibit 16).

Exhibit 16 – Porter's 5 forces frameworks. Source: Marketing Insider (48)

1) Competitive rivalry:

The intensity of internal rivalry can have a great influence in a certain industry structure, causing a negative impact in the profitability and attractiveness of a business area. This competition can come not only from established players but also from companies of other industries, following the concept of extended rivalry as a sixth force (49). The most important structural determinants to be considered in a direct competition are: level of industry concentration and balance between players, diversity of competitors, industry growth rates, presence of product differentiation, switching costs, fixed costs impact and exit barriers (47).

As mentioned before, the banking system in Brazil is highly concentrated. Traditional financial institutions like Banco do Brasil, Itaú, Caixa Econômica Federal and BNDES held 71,9% of total assets (50). This means a lower competition since players can make an agreement for the price and a higher overall attractiveness in the perspective of a medium incumbent. Fintechs such as Nubank can possibly change this scenario: unconstrained by the existing systems and unafraid to take risky decisions, these startups can leverage those characteristics to act as a decentralizing force (51).

The net profit of the four largest banks in Brazil grew 17% in the second semester of 2018 when compared with the previous year, adding up to R$ 16.88 billions (52). Moreover, rating agencies expect an expansion of 10% in the credit market for 2019 (53). As proxies for the financial industry growth, there is enough space for players like Nubank to expand its user base in the new part of the market and grow more easily, without the explicit need to steal customers from other institutions.

Another advantage is related to the fixed costs impact. As a digital only bank, Nubank can leverage the absence of physical branches and lower administrative and personnel expenses to achieve higher operational profit margins (EBIT) when the company is properly consolidated.

2) Threat of new entrants:

Motivated by the desire to earn market share and take part in the profit division of the financial industry, the entry of new competitors can increase services offering leading to changes in the pricing, cost and investment structure. This can influence the ability of current companies to generate profits and alter the competitive positioning of incumbents (54). The structural determinants are composed by barriers that can possibly favour or hinder a new entrance and by the retaliation of incumbents. Entry barriers include: economies of scale, economies of learning, capital requirements, brand identity, switching costs, access to distribution channels, cost advantages independent of size and legislation or government actions (47).

The most relevant barriers to entry in the financial services industry is related to its capital intensive nature and to strict government regulation in this sector (55). In Brazil, a large amount of investment is typically needed to start a business due to the historic high level of basic interest tax called *Selic* (*Sistema Especial de Liquidação e Custódia)*, reaching a peak of 14% in 2016 (56). This tax is related to the level of interest paid from traditional banks over the country to the Central Bank of Brazil to borrow money.

However, since March 2018, the Central Bank of Brazil reduced the *Selic* tax to 6,5% a year, the lowest baseline in its (Exhibit 17). This level is maintained still up to June 2019, despite 6 maintenance announcements in this period between 2018 and 2019 (57).

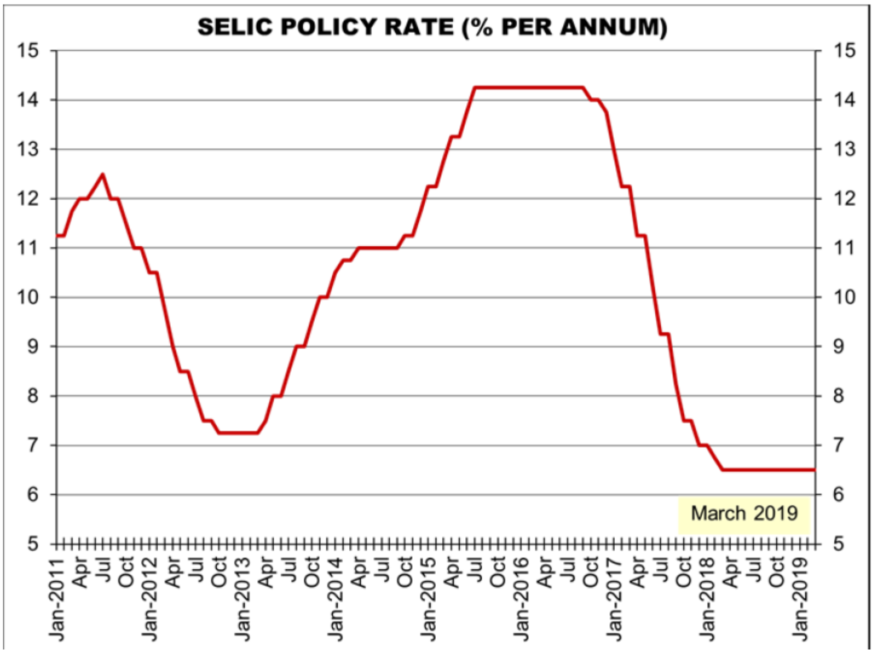

Exhibit 17 – Evolution of Selic tax rate. Source: Central Bank of Brazil (57)

The current situation, characterized by an expanding monetary policy, creates an economic scenario where traditional banks are encouraged to lend from the Central Bank, increasing their assets related to cash in their balance sheet. To prevent a loss in opportunity cost and reduce the amount of cash held, retail and commercial banks tend to expand their credit offering, thus fostering consumption and business investment. Nubank also benefited from this and in May 2019 announced the emission of R$ 300 millions in titles to raise funds while paying in return low interest rates (58). Moreover, it develops an attractive environment for foreign investors like venture capitalists to provide funds for growing local businesses and having stakes in it.

Nubank was one of the most sought targets by foreign investors. The company received multiple multimillionaire investments, reaching a valuation of over US$ 10 billions in July 2019 and position of most valuable startup in Latin America (59). In the latest round, the fintech received a capital injection of US$ 400 millions from the American fund TCV that has stakes in companies like Facebook, Netflix and Airbnb (60).

Related to government actions, in November 2018, Nubank received an authorization from the Central Bank of Brazil to be a financial institution. It is worth mentioning that the Brazilian Central Bank is not an independent institution from the national government. This enabled the company to perform credit operations and goods financing, providing loans to their customers and launching a debit card in beta testing for ten thousand clients (61). Between this permission and August 2019, 2.5 million clients already participated in those trials and the access is now open to all of its users (62).

However, more players are also visualizing attractive opportunities to enter in the financial services sector in Brazil, like the low interest tax *Selic* mentioned before. European entrants like the German N26 and the English Revolut already announced their arrival in the Brazilian economy. N26 is the most valuable fintech in Europe valuated in US$ 2,7 billions and targeted the country for an international expansion (63). According to Eduardo Prota, general manager of N26 in Brazil, said that the company choose the Latin American country since its population is already used to their business model (in a clear reference to Nubank's model, very similar to theirs) and that there are lower barriers of entry than in other potential markets, which facilities the entrance of innovating companies (64). Analysts express concern over the difficulty in obtaining the financial license to operate as a bank like Nubank did, but member from the government announced since the beginning of 2019 that the Central Bank is prone to grant more permissions, reducing the bureaucracy for fintechs (63).

According to Val Scholz during a fintech conference in Brazil 2019, responsible for the area of growth and engagement of Revolut, the company prepares to arrive and to change the financial segment in the country, offering solutions for the population to transfer their money (64).

Traditional banks also expressed their concern with the expansion of players in the industry, seeing fintechs like Nubank as a clear threat. In order to fight back the competition and avoid incumbent inertia, those institutions have already launched innovative products and services similar to what is offered by startups today (65). Clear examples are described ahead:

1) The credit card *Digio* from bank CBSS, company that has traditional players like Banco do Brasil and Bradesco as controlling shareholders, has a similar offer to Nubank with no annuity, digital only app and one of the lowest interest taxes available in the market;

2) *Banco do Brasil* and *Itaú* announced free digital accounts called *Conta Fácil* BB and *iConta*, respectively. These services can be opened, accessed and managed from smartphone apps without the need of reaching to a physical branch, much alike *NuConta* from Nubank.

3) *Bradesco* is moving even further by launching *NEXT*, a totally digital bank where bank accounts can be opened remotely through a mobile app. The company also adopts a brand unbundling strategy to promote a fiercer competition and be perceived as a new player.

Another relevant determinant refers to switching costs. This leads to customer lock-in in banking and concentrated market power in the hands of the larger traditional banks, where such costs tend to be lower than an average player (66). Fintechs like Nubank adopt zero tariffs for opening bank accounts in order not only to attract new clients but also to steal existing users from the competition, increasing their market share. However, this strategy comes with a serious economic downturn since a portion of their natural income is discarded and limits the entrance and size of new players that must enter the market in an already significant pace to be relevant and to be considered as a contender.

3) Threat of substitutes:

According to Michael Porter, substitutes are products or services able to satisfy the same customer needs but performed in a different way (67). It is also describes how a more attractive price/performance ratio can increase the risk of losing customers to substitutes.

Despite the recent technology innovations in monetary products like Bitcoin and services like Samsung Pay, Apple Pay and RFID payment, there is still a low threat of substation due to the level of expertise and newness of these technologies that suffered from monetary bubbles or are in an early adoption stage. Evidence shows that over the years, the financial industry increased its penetration in personnel and corporate lives leading to a dependant era on banking, making nearly impossible in a near future to be replaced by another market (68).

4) Bargaining power of buyers:

Through their buying power, customers can control the demand for products and services. This can be performed by the desire of a higher quality or a complementary offering, forcing players to compete and mitigate the buyer's power. The main structural determinants refer to the relative concentration in the business area, product differentiation, switching costs and product's impact on the final performance (47)

Since there are multiple banks in Brazil, buyers can choose from a broad range of financial institutions from different sizes to open accounts and deposit money, expanding customer's switching options. Traditional banks often lack creativity in offering innovative services and provide basically the same core products (69), reducing differentiation and strengthening buying's power.

Nubank leveraged this industry scenario in its favour, offering differentiated products and experiences to their customers. By understanding the high power concentrated in the hand of their buyers, the Brazilian fintech developed a simple but attractive purple credit card that its users were proud of having and would tell their friends and families about this new company, expanding the network effect. Moreover, it reduced the bureaucracy involved in opening banking accounts and offered incentives like no annuity taxes and low interest rates to provide a more enjoyable and suitable experience to a very demanding and growing segment of the Brazilian population, the younger one later discussed.

5) Bargaining power of suppliers:

In a dual manner from the bargaining power of buyers, suppliers can exert their strengths on products and services offering by being the only providers of a specific component or having proprietary technology. Through leveraging of these advantages, producers can charge higher prices, arbitrarily reduce products' quality or pass along additional costs to customers in the downstream of value chain. The structural determinants that affect this Porter force are related to: simultaneous participation in different industries, switching costs, product or service differentiation, threat of vertical integration from suppliers and relative concentration in relation to customers (47).

In Brazil, there is a duopoly in the financial services industry related to card flagship. This business area is dominated by two large incumbents, Visa and Mastercard, who together held 82% of market share while the remaining 18% was divided into a large number of small players in 2018 (Exhibit 18) (70).

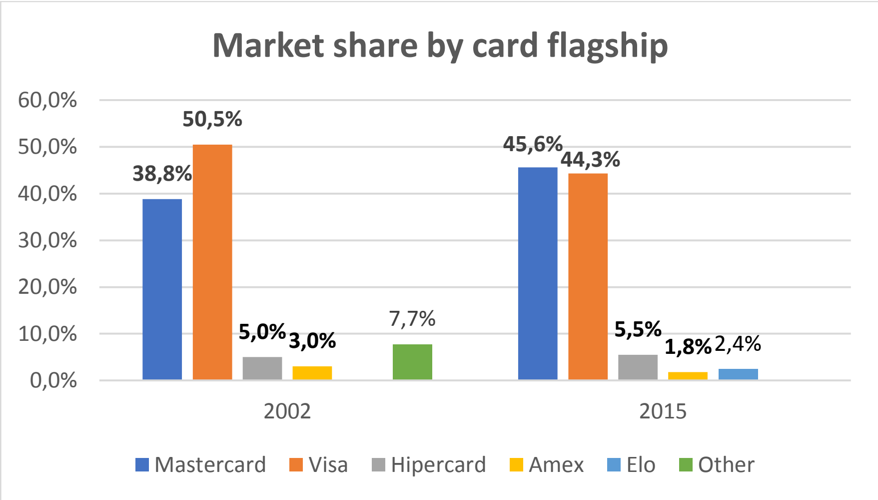

Exhibit 18 – Market share of card flagships (% of volume of payments). Source: Authors.

Despite the change in market leadership from Visa to Mastercard in this period, there is still a high concentration in this sector and a small percentage of the segmented lies with existing and newly coming small players.

Nubank uses Mastercard flagship in their cards as a facilitator for payment transper during financial operations. This partnership can influence the industry standards in a scenario where Mastercard shifts a cost increase downstream or decides to increase the tax charged to Nubank inside a strategic plan. The Brazilian fintech might financially suffer from such a decision, becoming unfeasible to change suppliers due to high switching costs associated to manufacturing and distributing new cards to all its customers.

SWOT analysis

The SWOT matrix (Strengths, Weaknesses, Opportunities and Threats) is a framework used to combine external and internal analysis in order to determine a company's competitive positioning inside a particular business area. In this model, the organization strengths and weaknesses in terms of capability and resources are analysed in parallel with the institution opportunities that can be acted upon and threats that could lead to performance degradation (Exhibit 19) (47).

Exhibit 19 – SWOT matrix. Source: Corporate Finance Institute (71)

1) Strengths:

In 2018, Nubank was awarded as the favourite card in Brazil through the National Research of Credit Card elaborated by CardMonitor and Medida Certa Institute. The market research interviewed 12.221 people asking them questions related to 19 credit cards offered by banks and companies, taking into consideration a series of attributes such as establishment acceptance, credit limit, credit card bill financing, call center, app, annuity and rewards program to measure their satisfaction with the services offered (Exhibit 20) (72). Moreover, 86,4% of the respondents said that they would indicate Nubank's card to friends and family.

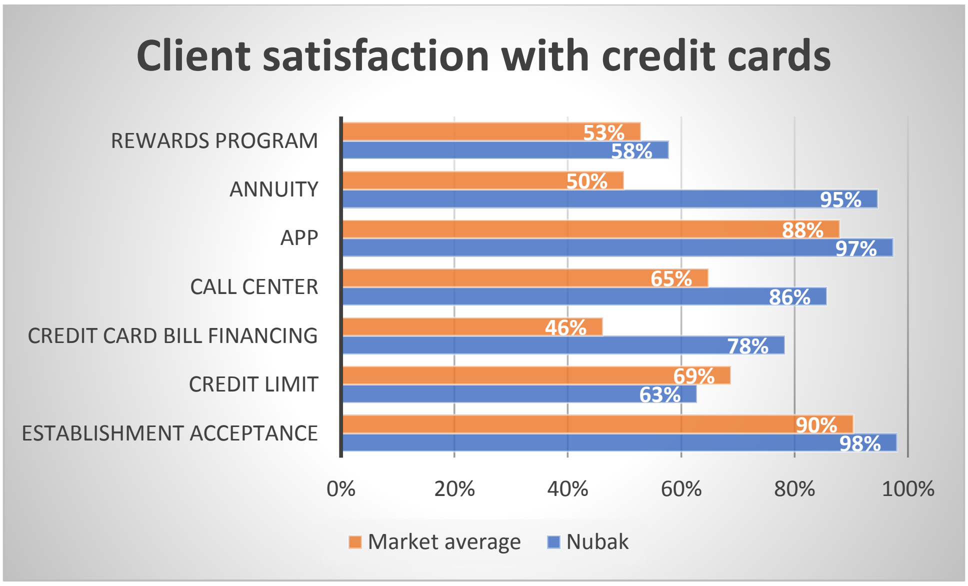

Exhibit 20 – Market and Nubank comparison. Source: Nubank (72)

Some of the strengths of Nubank such as (Exhibit 13):

S1) Absence of annuity and tariffs:

95% of the respondents mentioned their satisfaction with this metric in comparison with a market average of 50%. According to a national survey conducted in 2018 by the National Confederation of Store Managers and SPC Brazi, the average annuity for credit cards is BRL 70 (73). There is a larger preference for credit card payments among man and women with 18 to 34 years old (68,9%) from the high end classes A/B of the population (84,8%), whose segment is the most targeted and contribute with the highest number of clients in Nubank's userbase (Exhibit 21).

Have you used any type of credit over the last 12 months?

	General	Gender		Age			Class	
		Man	Woman	18 a 34	35 a 54	55 ou more	A/B	C/D/E
Credit Card (bank, store or some other institution)	67,5%	67,5%	67,5%	68,9%	66,7%	66,4%	84,8%	62,6%
Store installment plan (monthly payments, payment slip for a term or card for exclusive purchases in a store)	26,6%	22,3%	30,7%	31,7%	30,2%	12,0%	23,6%	27,5%
Overdraft limit	16,7%	18,2%	15,3%	16,0%	18,9%	14,2%	29,3%	13,1%
Payroll loan (discounted directly on payroll)	13,8%	17,2%	10,6%	6,9%	12,8%	27,4%	26,7%	10,1%
Personal loan in banks (no payroll discount)	11,7%	12,8%	10,6%	12,3%	11,6%	10,7%	13,0%	11,3%
Financing (e.g. cars/motorcycles, real estate, education, etc)	9,8%	11,4%	8,3%	12,7%	9,5%	5,1%	15,6%	8,1%
Personal loan in finance companies (no payroll discount)	7,5%	9,3%	5,8%	7,2%	6,7%	9,4%	12,1%	6,2%
Postdated check	7,2%	7,0%	7,5%	6,6%	8,4%	6,4%	11,5%	6,0%
Personal loan in finance companies (discounted directly on payroll)	6,5%	7,1%	6,1%	5,6%	5,4%	10,0%	11,5%	5,1%

Exhibit 21 – Preferences for credit card by gender and class. Source: Central Bank of Brazil (73).

This is a part of the population often called by the term *millennials* who is price sensitive, worries about their financial situation and constantly searches for savings alternatives. Consumer patterns often used to reduce spending and preserve income are commonly used (Exhibit 22) (74).

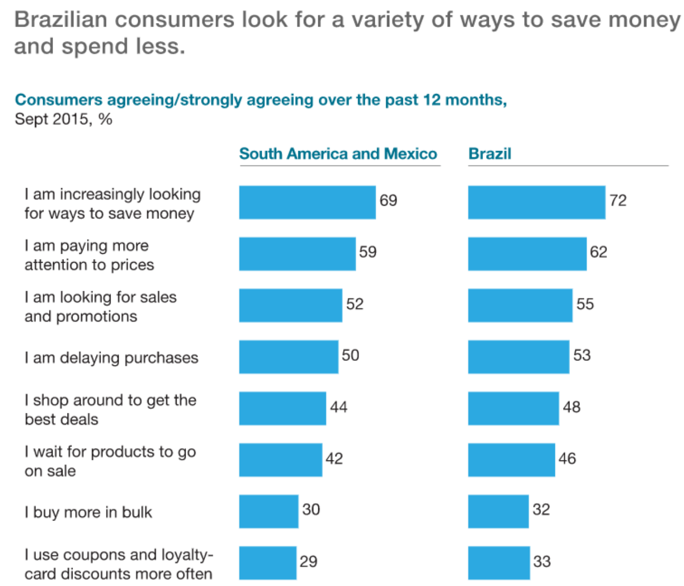

Exhibit 22 – Buying pattern of millennials. Source: McKinsey (74)

S2) Reduced bureaucracy to customers and employees:

As part of Nubank's vision of reducing bureaucracy in the Brazilian banking system, the company offers products and services that are more transparent and affordable to its customers. The credit analysis performed by the fintech only takes a few minutes and future clients can have their credit card with no annuity and tariffs with larger limits in weeks.

This business model characteristic is not only employed with their customer but also with their employees. The fintech is recognized for openly speaking about the time and care invested in keeping a good environment and culture for its staff, creating internal programs responsible for promoting welfare in a scenario where only 5% of Brazilian companies have such kind of initiative (75).

In 2018, the company also created a mental health program with the collaboration of 25% of all of its employees, made partnerships with Gympass for providing discounted monthly gym subscriptions that grants access in a series of facilities around the country. According to Ricardo Frias, leader of Nubank's global benefits, this philosophy is directly connected to the bank's mission of reducing bureaucracy in a sense to provide control of their customers' financial wellbeing, considered by the fintech one of mental health's pillars (75).

Diversity is also one of the key points for the company. The staff membership is composed by over 18 members ranging from 16 to 60 years old from all regions of Brazil and 25 different nationalities. When the startup team was beginning to be structured, recruiting services would often only evaluate if candidates carried the same values and mission of the company and providing autonomy for employees to act in the way he or she would prefer, as long as it was in line with Nubank's culture.

S3) Personalized customer services:

Nubank understand customer service as an opportunity for retaining clients instead as perceiving it as an additional cost. There is as increasing tendency inside the banking industry of outsourcing this kind of activity through artificial intelligence such as chatbots.

One of the most reported famous occurrences of the high level of client service provided by the company is called WOW. It refers to situations where customer support transcend physical barriers and reach a different baseline, being directly present in the user life. The first WOW experience happened when a dog ate the credit card of a client, in November 2015. The news was spread through social media and reached Nubank headquarters, where employees were mobilized and bought a toy bone for the lady's dog, sending it together with a totally free new credit card. This kind of corporate reaction ia a token of gratitude offered by the company for thanking its clients for believing in Nubank's mission and is warmly received by its user base, creating a positive feedback effect to attract even more customers (76).

2) **Weaknesses:**

Despite its success, Nubank is suffering an increasing competition from other fintechs and traditional banks that are launching even more innovative products and battling for prices. The points mentioned ahead are composed by initiatives from the company that still haven't completely succeeded or are moving at a slow pace when compared to other players besides characteristics that are often criticised or missed by customers.

W1) Legal accounts in test phase:

The Brazilian fintech still lacks an aggressive expansion to corporate banking. Nubank only started launching a pilot project with 10.000 clients in July 2019 focused in small companies owned by independent professionals and micro entrepreneurs (MEIs). Despite this kind of target public being despised by traditional banks for many years, this is a segment that still represents a minority of legal accounts in Brazil and is recovering from the recent economic crisis that shut down. According to the Brazilian Institute of Geography and Statistics, in 2015, 60% of the enterprises with less than 5 years closed their doors (77). Moreover, Brazilian institute Boa Vista conducted a research with bankrupted companies where results showed that 96,5% of them were MEIs (78).

Carlos Daltozo, director of variable income in Eleven Financial, alerts that Nubank's initiative in legal accounts demands a different knowledge and a deeper credit analysis than what is performed today (79). The fintech has no expectations yet in attending larger companies with more sophisticated needs and higher profits.

Competitors like C6 Bank and Interbank already offer legal accounts to both micro entrepreneurs and larger companies. Those companies also offer additional free services like 100 money transfers, unlimited withdraws, debit card and credit card machine. Interbank goes even further by bundling other of its portfolio products and providing working capital and receivables anticipation (80).

W2) Excessively automated credit approval:

Nubank uses an automated system based on a national identification number (CPF) and collects data from multiple market sources related to the client's payment history, consumption and credit information. It also uses an indication scheme where a new customer can inform being known by an existing client and improve the chances of being approved. Potential new users are then clustered into hundreds of different profiles and finally divided into three groups: the first one receives an invite to order the credit card in one week; the second can receive an invitation in the next 90 days, depending on test results and finally, the last group will not receive this possibility but can request a new analysis after 6 months (81).

According to the National Confederation of Retail Leaders (CNDL), only 36% of the Brazilian adult population in 2015 used a credit card as a payment method. This can be partially explained by the country's lack of financial education where 33% of cardholders do not know their credit limit and 96% are unaware of the interest rates paid monthly (82).

Occupying the sixth position in the ranking of most populated countries in the world, Brazil presents a large heterogeneity in terms of consumption and national debt in its 5 regions (Exhibit 23).

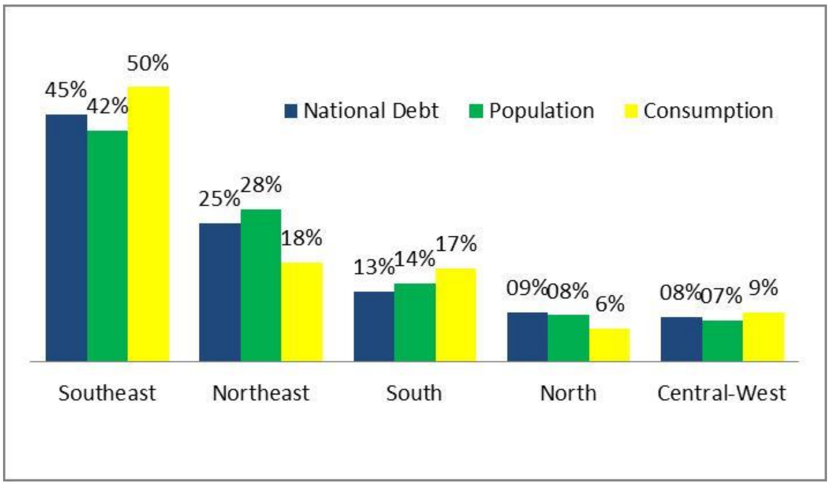

Exhibit 23 – Consumption and national debt by region in 2019. Source: Abaco (83)

The southeast region concentrates 42% of the national population and represents 50% of total consumption, having 5 percentage points over national debt. This is also correlated to the 47% of all Nubank clients being concentrated in this same area. However, poorer areas like the Northeast and North have greater shares of debt than consumption, also representing lower presence in the fintech's user base.

Despite a high fraud risk in Brazil where chargeback from online purchases reach 1,6% and 3,8% of orders are rejected due to fraud suspicion (82), the lack of transparency in credit approval creates a barrier for new clients. As a company that since its foundations addresses customer relationship as one of its strategic pillars, the level of difficulty for users even with decent credit scores in opening a bank account is still high and without a clear reason why.

W3) Lack of bill payment through automatic debt:

This is a feature that most traditional banks have and was very well received by their clients. It consists of a free service where the value of payment bills (such as energy, gas, mobile phone plan, credit card) are automatically deducted from the user's account. Customers do not have to worry about the maturity of their bills and avoid paying penalties for late payment. It is also possible to include bills whose name responsible for is not the same as the automatic debt user.

According to the Credit Protection Service (SPC), in 2018, 62,6 millions of Brazilians had a late bill in the end of the year, representing 41% of the total population (84). Further data shows that people with ages between 25 to 29 and 30 to 39 years appear with the highest rates of default with 44,4% and 51,6%, respectively (84). These two segments together with clients from 18 to 24 years old (17,1% of default) compose the vast majority of Nubank's userbase.

3) Opportunities:

According to Nubank, the company is always searching for opportunities to improve clients' experience and studying the possibility of adding other eventual services (85). However, there are spaces for growing and developing a userbase in important segments of the Brazilian population related to the oldest ones and a chance of internationalization to expand and diversify the fintech's portfolio abroad.

O1) Focus on new clients with higher age and buying power:

As reported by the United Nations, the Brazilian population is growing older at a fast pace (Exhibit 24).

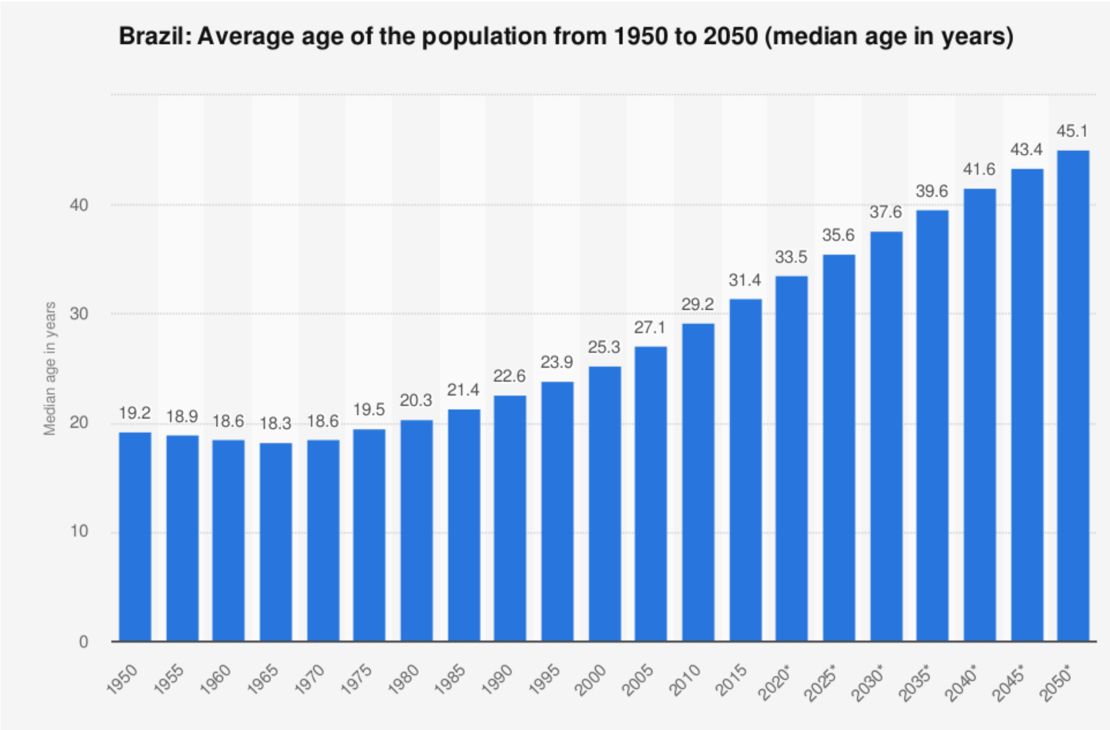

Exhibit 24 – Average age of Brazilian population from 1950 to 2050. Souce: United Nations (86)

The median age reached 31.4 years old in 2015 and will grow at a 5.31% CAGR until 2050, when estimation suggests that the population will have 45.1 years old representing a total increase of 44%. According to the founder and CEO of the company David Vélez, the average clients' age in Nubank's foundation was 21 and in 2018 this grew to 32 years old (87). In an attempt to improve this data and attract older clients, the fintech launched a campaign to promote their brand with the music from Elis Regina "As our parents", a famous singer among older people. This song became very popular in 1976 during a national broadcast and talks about how new inventions were changing the behavior of people in that time. As stated by Nubank, the company couldn't have picked someone better to represent their indignation and nonconformity with the financial system (88).

The presentation video received a colour correction treatment and noises, distortions and defects that remained from digitalization were removed. The audio also received a special analysis to improve the quality when played on smartphones and tablets, the same devices used to access Nubank's app and services. The second part of the campaign was more provocateur and spread famous phrases from iconic singers in busy places of São Paulo, like Paulista and Faria Lima avenues (Exhibit 25).

Exhibit 25 – Nubank's campaign. Source: Nubank (55)

The image above can be translated to "As our parents" making a clear reference to the song depicted earlier and "watch out, danger in the corner" referring to Nubank's increasing presence in Brazil. The company questioned why some many people still live in the past, accepting low quality services, with huge waiting lines and bureaucracy. Even further, the fintech also asked if people would like to keep living as their parents, like 20 or 30 years ago.

Nubank's mission also contemplate acquiring platinum clients, with an average to high income (89). In a clear effort to gain the attention of this segment, a rewards program was launched in 2017 to attract customers that pay high annuity taxes in exchange for more points in fidelity schemes. In their program, those points do not expire, there are no restrictions in buying plane tickets as in other competitors and no barriers to transfer the score.

O2) Consolidation of international expansion:

In May 2019, Nubank announced the beginning of their international expansion to Mexico. The fintech is opening a branch called Nu and will offer its financial services to this Latin American country. Despite their technology hub in Germany, this is the first time that they will financially operate outside Brazil. Mexico was chosen due to its similarities with its South American peer and according to Nubank's CEO David Vélez, Mexican consumers face the same challenges with the already existing services that forgot to allocate customers as their strategic and product centers. Moreover, more than 36 million people in the Mexican population still do not have access to the financial system and Nubank plan to democratize this entrance (90).

In June 2019, the company also stated that will arrive in Argentina. Half of the adult population, around 16 million people, also do not have access to financial services and Mr Vélez communicated to the press that Buenos Aires, Argentina's capital, is the major pole of Latin America developers where the company already opened jobs to recruit them (91).

Those two examples demonstrates the clear intent of Nubank in internationally expanding their operations and product and financial services offering across Latin American countries. Other nations such as Peru, Equador, Colombia, Chile and Uruguai could also be targets of the company strategy due to their similarities with their original targets.

Moreover, bulge bracket investment banks such as Goldman Sachs already announced their positive intention in helping Nubank expansion to Mexico. In 2016, the institution lent money to the startup and agreed to finance credit lines to clients. According to Jason Nassof, executive of special operation at Goldman, the company has the flexibility to invest from top or down the capital structure, providing loans, buying stocks or combining both of them. Sachs is also embracing online initiatives to open a digital bank under the Marcus brand and could have synergies with Nubank (92). In a future and possible IPO scenario, the fintech will have to choose an investment bank to provide underwriting service and this relationship could swing their preference.

In 2016, Goldman structured a receivables securitization action to lend BRL 200mn which was furthered amplified to BRL 455mn in August 2017. Mr Vélez remembered that the interest rates in this deal were expensive but this was credited to the fact that the institution offered a chance while other banks did not believe in them (92).

4) Threats:

Nubank's success occurred among a bureaucratic and concentrated financial system where 5 large banks dominate over 80% of the Brazilian market share. The fintech was able to penetrate this industry and its increasing presence is generating incumbent's reaction that are worried with losing market power. Moreover, other entrepreneurs also saw an opportunity opened in digital banking and also established businesses that can present a threat to Nubank's future profits.

T1) Other fintechs entering the market:

Driven and inspired by Nubank's success, many fintechs were born with the intention of surpassing their main competitor, improving processes and offering more innovative products related to digital banking. Companies like Agibank, Inter, Neon, Original, Pag! all entered this market with different characteristics such as annuity fees, transfer and withdrawn taxes and the presence of debit cards (Exhibit 26)

Institution	Annuity fee (R$)	Tranfer tax (R$)	Withdrawn tax (R$)	Debit
Nubank	No fees	No taxes	6,50 at bank 24H	Being implemented
Agibank	No fees	To Agibank: ilimited and free. To other: 4 free transfers each month. 1,90 for extra	4 free operations at bank 24H. 6,50 for extra	Yes
Inter	No fees	No taxes	Free at bank 24H	Yes
Neon	No fees	To Neon: ilimited and free To other: first is free. 3,50 for extra	First is free. 6,90 for extra	Yes
Original	12,90 monthly	Ilimited for a year	Free for a yeat at bank 24H	Yes
Pag!	No fees	No taxes	Free at bank 24H	Yes

Exhibit 26 – Comparison of services and taxes by fintechs. Source: Authors

. The absence of annuity fees is basically a category pop, since it's a feature perceived as necessary for a brand to be considered a competitor in this industry. Transfer and withdrawn taxes vary among digital banks but players like Inter and Pag! have more aggressive offerings and have no fees. Nubank was lagging behind in terms of debit card that is now being implemented.

Moreover, companies like Agibank and Inter also present better results in terms or reputation and complaints solved than Nubank. According to information from the website *Reclame Aqui*, the formers present an evaluation of 8% and a ratio 10% of troubles managed better than Nubank (93).

Financial Analysis of Nubank

In a financial analysis, the ability of the company in generating profit and whether its liquidity is coherent with their obligations are two main points to be answered. However, Nubank must be treated with caution since despite the fintech still haven't reached net profits, it does not mean that the company is not efficient or unable to generate enough cash to be sustainable. It is important to remember that the startup is employing an aggressive expansion strategy not only internally but to other countries like Mexico. In Brazil, its focus is on increasing their userbase and product offering while keeping customers attracted by offering no annuity taxes on credit cards and low interest rates.

Nubank's net operational revenue grew 256,9% CAGR from 2015 to 2018 (Exhibit 27). In the last year, it increased 116%. This amount corresponds substantially of exchange tariffs charged by the use of credit card in Brazil and abroad. Effective tax rate over operational revenue remained around 13%.

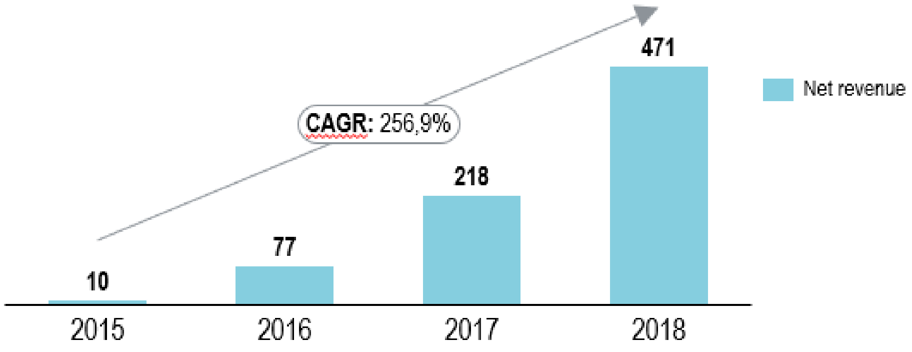

Exhibit 27 – Net operational revenue from 2015 to 2018. Source: Nubank (appendix 1)

The sum of net operational revenue and net financial result is substantially Nubank's total revenue. Most of the financial revenue was derived from interest on bank credit ballot income (CCB), which represents a title emitted by any person where the institution configures itself as the creditor. These are mostly used in financing shopping with revolving credit and installment payment. The other part of the revenue comes from interchange rates. Financial expenses are, in large part, from interest on loans especially from Goldman Sachs mentioned before (Exhibit 21).

Cost of goods sold (COGS) increase 168,61% CAGR in average for the period considered. Those expenses include account maintenance (processing credit card sales, flagship, charging, data services, credit bureaus) and card emission. Sales, general and administrative cost (SG&A) also raised especially between 2017 and 2018, around 47%. It can be partially explained by Nubank's staff expansion from 850 to 1500 in the period considered. The other portion is mostly referred to an increased in expenses with data and communication processing. This is a company's initiative to provide more insightful analysis on their clients, defining a tailored and realistic profile in order to develop products and services that better suit user needs (Exhibit 21).

The last part of the cost analysis are represented by provisions of credits with doubtful liquidation. It indicates the value that the company may permanently lose with defaulting clients and represent an accounting estimation of users' credit that possess a considerable risk of not being paid. This can be used to deduct government taxes but further in the income statement, there is a clear and increasing problem of default: the percentage of provisions that are actually converted into loss is increasing at a fast rate. In 2017, it represented roughly 22% of total provisions while in 2018 that number scaled up to 54% (Exhibit 28).

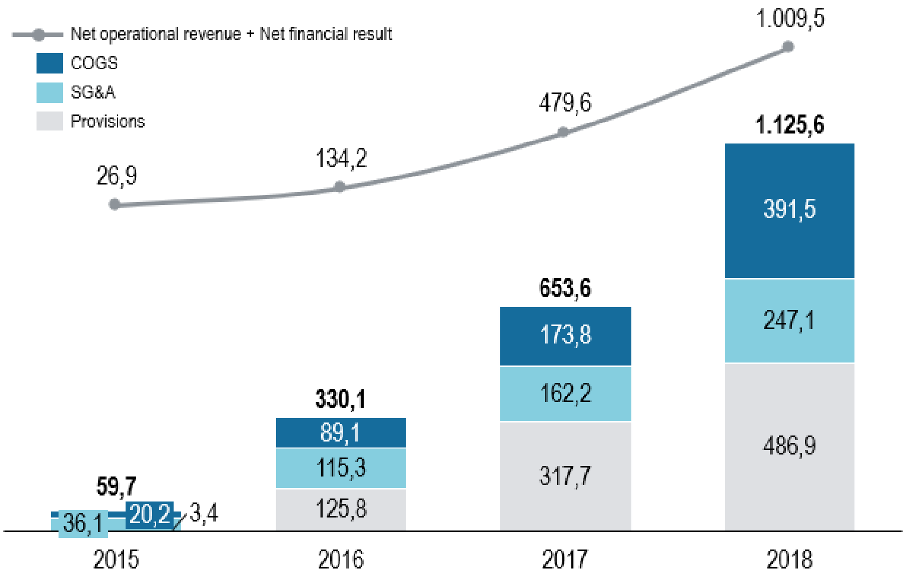

Exhibit 28 – Total revenues and costs from 2015 to 2018. Source: Nubank (appendix 1)

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Despite total revenues almost doubling, it still does not cover all operational expenses and default provisions and that's why the company presents losses. However, the growth of these costs was smaller than the increase in revenues which indicates the proportion of new clients to mature users is beginning to favor the fintech.

Finally, Nubank's net income is improving despite still being negative. 2016 represented the greatest increase of 273% in losses but 2018 compensated 15% regarding 2017 (Exhibit 29). The company follows a normal rhythm for young enterprises that are looking for economies of scale and the investment dilution should happen in the next years. Bradesco BBI analysists indicate that the fintech's risk cost is under control and that the market share increase in the credit market indicates potential for NuConta (94).

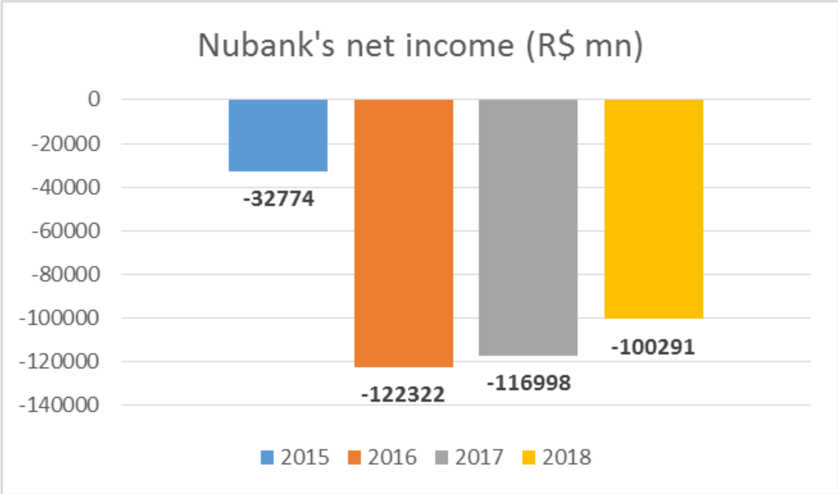

Exhibit 29 – Nubank's net income from 2015 to 2018. Source: Nubank (appendix 1)

Despite Nubank losses that in 5 years add up to R$ 380 millions, investment funds are more concerned with the other lines in the balance sheet. The major bet is that the company will lead the disruption process in financial services, attracting millennial clients that were not properly attended by traditional banks. In 2018, the company ended the year with a raise of 128% in total assets in relation to the same period of 2017 (Exhibit 30), double the amount from its growing competitor fintech Inter bank.

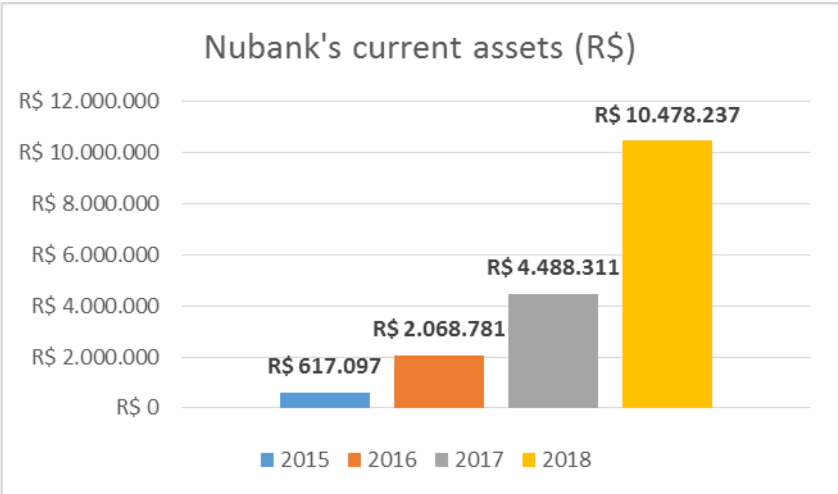

Exhibit 30 – Nubank's total current assets. Source: Nubank (appendix 2)

In 2018, 60% of Nubank's total current assets were from credit card receivables. Of that amount, 74% were 3 months due meaning that the bank should have quick liquidity. Moreover, clients in the credit segment are classified in terms of money spent in credit operations according to their risk level from A to H. 90% of the fintech's userbase is considered almost risk free of defaulting (class A) and the corresponding provision is at 19%. However, a small percentage of 3% has a high chance of not paying in time (class H) and is responsible for 38% of those provisions. Nubank's is expanding in all clients segment by offering a softer credit analysis but this come with the heavy price of having higher chances of late payments, defaulting and larger provisions to amend these issues.

Finally, Nubank's operational cash flow is positive since 2017 but decreased 66% last year. This guarantees a healthy maintenance of the fintech's performance and demonstrates that despite the negative profit, the company is able to generate cash. As a growing startup, Nubank's is more concerned in investing their money in the development of new products such as NuConta and in hiring more employees to keep in this fast pace, which would explain the increase in net working capital corresponding to the decrease in cash flow.

Accounting based indicators use annual reports including financial documents like balance sheets, income statements and cash flow statements and can be classified according to their measurement principle and type (Exhibit 31).

Type	Indicator		2018	2017	2016	2015
Stakeholders' perpective	Debt-to-equity ratio	Liabilities/Shareholders' Equity	893,0%	1124,5%	376,6%	101,2%
	Effective tax Rate%	Taxes/Pre Tax Profit	13,8%	32,7%	37,4%	0,0%
Liquidity analysis	Current ratio	Current Assets/Current Liabilities	109,1%	110,8%	121,9%	198,3%
	Quick ratio (Acid test ratio)	Cash+Short Term Investments+Receivables/Current Liabilities	70,9%	97,6%	98,9%	137,8%
	Cash-Flow-to-Debt	CFFO/Financial Debt	16,5%	162,8%	-185,7%	-1996,9%
	Short-term Debt Coverage	CFFO/Current Financial Debt	16,5%	162,8%	-185,7%	-1996,9%
Shareholders' perspective	Return on Equity (ROE) %	Net Profit/Shareholders' Equity	-9,3%	-32,5%	-27,2%	-10,7%
	Net Profit Margin %	Net Profit/Revenues	-21,3%	-53,5%	-158,7%	-316,5%
Overall Company's perspective	Return on Assets (ROA) %	EBIT/Total Assets	-6,1%	-9,2%	-11,8%	-8,0%
	Return on Invested Capital (ROI) %	EBIT/Total Assets-Non Financial Liabilities	-40,0%	-53,3%	-38,7%	-15,4%
	Return on Capital Employed (ROCE) %	EBIT/Equity+LongTermDebt	-60,9%	-120,8%	-56,2%	-16,0%
	Operating Profit Margin %	EBIT/Revenues	-139,0%	-199,2%	-328,2%	-476,0%
	Quality of Operating Earning %	CFFO/EBIT	-13,1%	-56,9%	149,4%	498,1%
	Asset Turnover Ratio %	Revenues/TotalAssets	4,4%	4,6%	3,6%	1,7%

Exhibit 31 – Accounting based indicators of Nubank from 2015 to 2018. Souce: Nubank (appendix 1 to 3)

From a stakeholder's perspective, Nubank's debt to equity ratio suffered a big spike of 750% in 2017 due to their aggressive expansion in Brazil, increasing loans to finance it. However, their equity did not raise accordingly since the fintech's strategy is not related to raising money with private investors in a public sphere like an IPO yet. Recently, the company also obtained authorization to act as a financing institution in Brazil, offering the possibility to provide personal loans and emit bills of exchange. This amplifies fundraising sources and reduces cost of funding and lowers the effective tax rate by almost 20% as seen from 2017 to 2018.

Inside the liquidity analysis, current ratio measures the company's ability of paying short term obligations due within one year and it is steadily decreasing nearly to 1, telling investors that Nubank can maximize their current assents to satisfy its debt and remain solvent. Others ratios such as cash flow to debt and short term debt coverage also presented increases of over 140% last year due to the increase in cash floe from financing operations (CFFO). Combined, they provide a snapshot of the overall financial health of the company. However, as an expanding and aggressive startup, Nubank's is using its cash flow to reinvest and finance itself.

From a shareholder's standpoint, the company's return on equity raised 20% and net proft margin also increased by 32% last year despite both still being negative. Most startups lose money during their early moments and especially when expanding, as Nubank is. However, this growing prospect is showing the company's ability to generate profit and signaling investors of their potential and possibly near IPO, selling shares and increasing equity.

Teaching Notes

Synopsis

The purpose of this case study is to understand how impactful fin-techs can be inside a consolidated market and how the financial market is changing to address the new entrants. The analysis will take the development of Nubank as the main point of view, since it was the pioneer in the Brazilian market, a previously plastered and bureaucratic environment. By following and understanding more of how Nubank was able to success in this scenario, it will be possible to see the impacts for the users and for the classic companies of a rising rival fin-tech and how the market will adapt to it.

For this analysis, the first step should be understanding the innovation models of the company, how it worked through the market and how the public perceived the innovations presented by it. Secondly, analyse in which sense the Nubank's strategy changed how the industry works, going from the digital services to the relationship with clients. Then, understand how the fin-tech can become lucrative and have an organic growth to fully compete with traditional banks, reshaping the industry as it is. Finally, the final step is an analysis of the possible next steps, threats and risks for the further development of the company.

Objectives

The objectives can be described as follows:

- Understand the development of a fin-tech as the first mover in a traditional market and how this position was an advantage and a sit back for the company
- Comprehend the role of innovation in the financial market and how users perceive it
- Analyse a company through their financial reports and be able to give recommendations and fully understand the context that a company is inserted on
- Enable students to know a different country's market with different development levels and structure

Target Audience

Since the case is based on a financial start-up in a classical market, the main audience is students from the Design Management, Innovation and Entrepreneurship track and from the Finance track of the Master of Science in Management Engineering program of Politecnico di Milano. Students from other tracks of the program may also make use of this case since it contains a lot of contents and practical examples of concepts taught in the disciplines of Strategy and Marketing, Accounting, Finance and Control and Macroeconomics of Finance taught in Polimi.

Discussion

How the main innovations Nubank brought to the market be classified and analysed?

The innovation was present in many moments on the development of Nubank and with many differences on them. There are two major innovation moments that deserve a deeper analysis: the foundation and the beginning of the company, with the fully digital credit card company, and with the creation of NuConta, a new service proposed by the company that changed how regular bank accounts work.

To start the analysis, it's important to evaluate how the market was behaving before the innovations and how they are positioned into the innovation space (Exhibit 32). There are three dimensions in this space: technology, market and meaning.

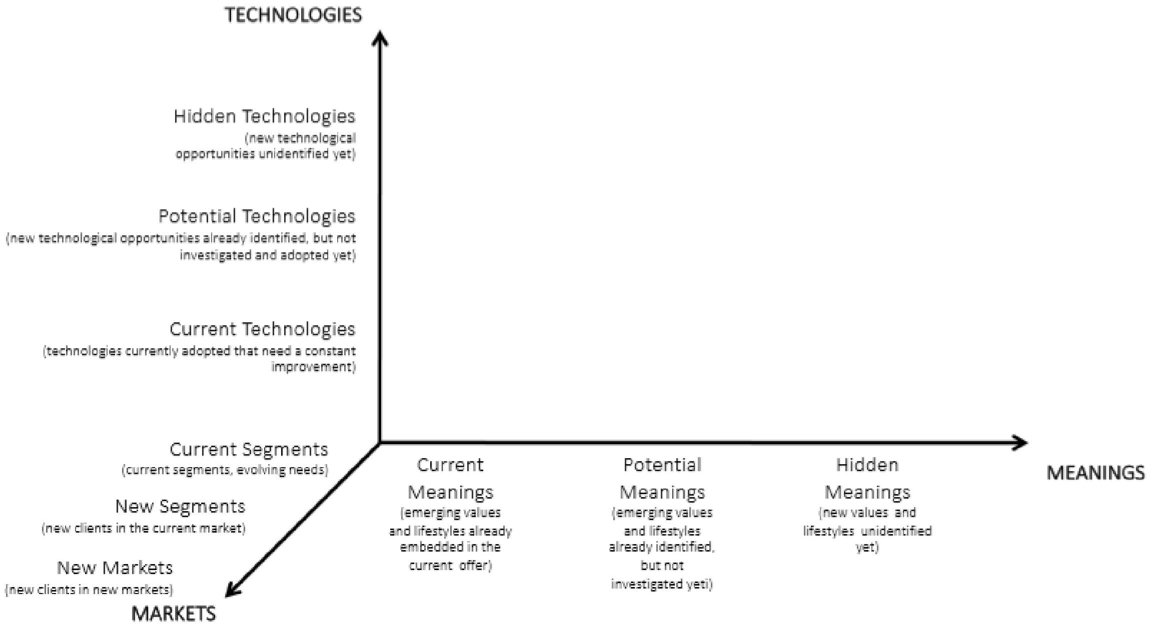

Exhibit 32: The innovation space and it's dimensions. Source: Design Strategy and Economics of Innovation's slides

The technology dimension represents the knowledge involved in the creation of the technology and have three different levels, starting at current technologies, which are only slightly improved by the innovation, almost like a natural development of the technology. Then there are the potential technologies, where there are new developments with the innovation, but the area isn't fully exploited yet; finally, the hidden technologies, in which new areas are explored and there is a technological development of the market.

To analyse how impactful the innovation is on capturing their customer base, the market dimension is broken down also in three levels: current customer segments, new segments and new markets. The first level is characterized by the same customers in prior to the innovation, without changing the main user of this market. In the second level, there is the expansion of the served market as new customers are reached by the same channels. At the last level, the expansion is in the market itself: a new one is defined, and new customers and needs are created, thus being a "*blue ocean*" and a great opportunity to dive on.

With these two dimensions, it's already possible to create a "quantitative" positioning of the innovation, however, there is still the meaning dimension, which correlates a lot with the perception of the users to the solution proposed. Understanding how the innovation interacts with the feelings and meanings of users is essential to analyse the deepness of how impactful it is in their perception, not only in a business evaluation. Again, with three different levels, the dimension starts with similar meanings that the existent solutions already emerge on users, without many differences. The second starts to show signs of new ways to interact and correlate with the solution, but doesn't explore much of it, mostly showing new paths to then, in the third level, really change perceptions and the lifestyle of the user, reshaping the meaning of the market for them.

As Nubank was first introduced and their concept of being a fully digital credit card company reached the market, many were curious on how this company would thrive in the market, since it was a novelty having a banking service only through technology. To position the creation of Nubank in the innovation space, it's reasonable to start by the meaning dimension, since the change of meaning is entangled with Nubank's mission. As they state, giving the user a much more friendly experience and without bureaucracy is an improvement on how its customers feels about the banking world, thus being categorized as a "potential meaning", since the relationship is still somewhat similar to a traditional banking (in the sense that there is still the same roles and players involved), but it's made in such a different way that it points towards a new kind of relationship and, thus, a new meaning for the credit card usage.

As to the technological dimension, there weren't any major developments or differences on the existing banking technologies, specially regarding data security. What was holding most of their traditional competitors back wasn't related to technological aspects, but mostly due to customer's behaviour. In this sense, the innovation fits on the "current technologies" level.

Finally, regarding the market dimension, it's a bit more complex to define exactly where Nubank's birth would fit. As Nubank wanted to change the credit card environment in Brazil, most of their target customers were already users of other credit card's emitters, not reaching out to any other customer segment at first. However, since their background check on users is much lighter than traditional banks, Nubank indirectly started to address a new segment of the market, people that didn't had the best credit background but was enough for the start-up parameters, and this was an important feature for the development and spread of their brand. With these points in mind, Nubank's creation can be placed in the "new segments" level, but still with a heavy focus on the pre-existent customers in the credit card market.

With the positioning and the points presented, it's also important to notice how the innovation was conceived. As David Vélez based most of his insights in feedbacks presented by his colleagues and his personal experience, it's clear that the innovation process started by understanding the user needs, and then working to solve these problems, characterizing it as a *outside-in* approach. Also, it can be considered a "*market-pull*" innovation, since it was developed from a need from customers in the market and didn't presented new technologies disruptions or new markets.

As the company grew and developed their services, new and complementary services were being added to their portfolio. The creation of NuConta was a huge success and an important landmark in the company's history, specially because with this feature, Nubank was entering the banking market, not being restricted to the credit card's anymore. This innovation in the business model of the company is quite different from the credit card fully digital, as it is positioned differently in the innovation space.

The introduction of NuConta as a personal account that automatically invest the customer money changed the perception of customers towards the company and how they interact with their bank accounts. Normally, in Brazil, people only invest a part of their money, leaving a part of it halted in the account for ordinary transactions. The perception of customers towards NuConta was that they needed to be more aware of their money and how it's valued in the future if it's not being invested, thus making many customers use NuConta as a form of investing their money in a easy and simple way, while also being able to use the money instantly if they wanted. In that sense, NuConta can be considered as a "Hidden Meaning" in the meaning dimension since users had different feelings and relationships with their money and their banking accounts while using NuConta.

Regarding the market dimension, it's possible to point out that NuConta learned from the previous experience the company had with the credit card. As the lighter background check brought a new customer segment, NuConta with their policy of serving all customers without any fees brought new customers that couldn't afford the fees or simply didn't paying them at all. As the previous, NuConta is categorized as "new segments" in the dimension. In the technology dimension, apart from the fully digital aspect and the "automatically" investment of the money in the account, NuConta don't bring many developments to the market, thus being a "current technology" innovation.

As the introduction of this new feature changed the way costumers and the market as a whole look to personal accounts, this innovation can be classified as a "*innovation of meaning*", where the essence of the service changed the perception of some players involved on it. Also, it wasn't a customer need to better invest their money (or to invest at all), NuConta created the motivation and the "need" for this innovation, which is a fundamental trait of an innovation of meaning. As it comes from inside the company and then reaches out to the customers, it's also considered a "*inside-out"* innovation.

Nubank was able, since their foundation, to innovate in different (but related) markets in different ways and without a technological breakthrough, which is associated with the most common innovation path. By understanding the customer needs and even creating a new need, the company successfully developed their innovations into actual business plans and could reshape an old and heavily consolidated market. In that sense, Nubank shows an intelligent position as not only to provide transformations in the ecosystem, but also to be innovative even in a "comfortable" market position and leveraging from the first movers advantage their innovations are bringing them into these reshaped markets. Also, it's a good example of how there isn't a "best" model for innovation, as each one had their own models and characteristics (Exhibit 33) both being fundamental to the continuous development of the company.

Characteristics	Credit Card fully digital	NuConta and automatically investments
Technological Dimension	Current techonology	Current techonology
Market Dimension	New Segments	New Segments
Meaning Dimension	Potential Meanings	Hidden Meanings
Innovation Strategy	Outside-in	Inside-out
Innovation Model	Market pull	Innovation of Meaning

Exhibit 33: Characteristics of the main innovations by Nubank. Source: Authors

What impacts Nubank's strategies brought to the industry and how it is being reshaped by the start-up?

Nubank's success in the Brazilian market can be assigned to two main strategies practiced by the company: traditional banking concept disruption and user-friendly approach. The development of these strategies was almost linear, since one lead to the next one due to the consequences they created in the financial market. Even though Nubank is still behind most of its competitors in the market, its actions and the overall growth due to the successful impacts of their strategies is a huge threat to the traditional market, being vital to understand how to adequate old services to the new technological era.

At first, Nubank already innovated when offered to the Brazilian customer a credit card fully digital, which was completely different from the bureaucratic credit card services traditional banks provided, where the client need to make various trips to agencies to create an account, sign a lot of documents, waste time on queues and so on. At the time, most of the banks had already a lot of online services to personal use, like those being offered by Nubank, however, by offering only digital services, Nubank was imposing their brand as a progressive company, focusing on the efficiency and simplicity of their services, as the previous online banking options were too shallow (only main information was provided, without much details), too bureaucratic and required a lot of passwords and devices recognitions. It was only useful for customers used to the banking environment that consulted their finances often, not for the everyday users.

The start-up's launch, with the concept of being an accessible credit card service, where users could solve any issue and make any request through their mobile app changed the mindset the general public had towards their banking services. After the success Nubank had, most traditional banks reshaped or even created mobile apps to match the competition. This effect is quite interesting, because most of the traditional competition noticed the threat that this new interaction between the general user base and their credit card features was implying in their transaction to a new option in the market, specially by those with a higher contact with technology (95).

This movement of the new technology adepts was essential to the next step in Nubank's strategy, since the relationship the company was creating with this niche was also quite different from the traditional paradigms. It was essential to capture the attention and raise the brand awareness in this specific area of the market for two main reasons: the passive marketing these users generate through their strong presence in social medias and due to their age spectrum.

By creating a friendly, intimate marketing position, Nubank wasn't seen as a company, but almost like a "person", with playful responses and informal language in the social medias, which is quite odd for a financial company, thus being shared by their users in their social networks as a different and youthful, "millennial" company. With this strategy, their marketing was doubly effective, since reinforcing this unique positioning only generated more passive spread of the brand through the market. Other important point is the age of most Nubank users, as they are mostly under 35 years old, being the next generation of "adults", thus being the most active financial population. By capturing this segment of the market early on, Nubank is setting up the path to grow even more in the future, since their clients' finances should only grow as they get older, generating a retroactive effect. In this sense, the strategy to focus on digital adepts was brilliant not only to develop a solid and unique brand structure, but also to capture a very promising niche of the market.

This positioning made some traditional competitors create specific strategies and programs to approximate themselves with young costumers. The top five players in the market previously mentioned created or reshaped programs for college students after Nubank's breakthrough, offering better credit conditions and reduced fees to this type of customer. In the marketing aspect, there was an expressive growth in social network's activities, however it's hard to address this aspect only to the expansion and marketing actions of Nubank, since there has been an overall growth in this kind of marketing.

How can Nubank be valuated? Is it coherent with external valuation in the press?

The VC method is a business tool commonly used by venture capitalists to provide a valuation of startup companies. Typically, investors want to capitalize their investment through an exit in a future moment, collecting profits equal to some multiple of their contribution or an internal rate of return based on the risk perceived. To start the model, some initial assumptions had to be made (Exhibit 34).

Nubank VC Method Assumptions	
Required Investment, *BRL mn*	400
Probability of Success in Exit	80%
Exit Valuation, *BRL mn*	15.000
Years Until Exit	1
Cost of Capital for the VC	12,8%
Expected Retention	100%
Proposed Ownership	5%

Exhibit 34 – VC method assumption. Source: Authors

The first assumption refers to the required investment of BRL 400mn for 5% of the shares. This is coherent with the last series F funding round made of the amount by TCV, counting with the participation of Tencent, DST Global, Sequoia Capital, Dragoneer, Ribbit Capital e Thrive Capital. However, since the deal was privately closed, there is no information about the number of shares it represents.

The second presumption revolves around an expected retention of 100% since the company is already in a late stage investment (series F) and there are expectations of an IPO of Nubank in 2019 or 2020, possibly the last round before exit (96).

According to a study realized in the ABC Bank by the Brazilian Securities and Exchange Comission (CVM), the average cost of capital in the banking industry is around 12,8% (97). The estimated probability of success was assumed 80% because in one hand the company shows good signals in the market in obtaining multiple rounds of funding, presence of respectable venture capitalists and increasing operational performance in terms of users but on the other hand, Brazil faces an historic low IPO market with only 3 companies going in public in 2018 with uncertain and near crisis future political scenario with heavy critics to Bolsonaro's government. The country also faces a dilemma in the pension reform after it being approved through a turbulent scenario but some points are still being discussed.

The last investment from TCV will help financing the first international expansion to Mexico later this year (98). Nubank already launched their annuity free credit card called NU in the Latin American country. The company also announced another plan to operate in Argentina. Based on the premise of a successful development and rapid growth in these areas similarly to what happened in Brazil, the exit valuation was estimated 50% higher than what was released as the transaction valuation, reaching BRL 15bn.

However, the value of the exit valuation need to be discounted by some kind of rate to consider the postponement of uncertain inwards cash flow, which means considering the effect time has on money. The present value of this rate is called target multiple of money and can be found by elevating the cost of capital for the VC by the years until exit and then dividing the result by the probability of success at this future moment. Finally, the total valuation at present time can be reached by multiplying the exit valuation assumed by the ratio among the cost of capital and the target multiple for money (Exhibit 35).

VC Method	
Target Multiple for Money (M)	1,4
Total Valuation, *BRL mn*	10638,3
Partial Valuation, *BRL mn*	531,9
Profit, *BRL mn*	131,9

Exhibit 35 – VC method results. Source: Authors

A total valuation of BRL 10,6bn was found for Nubank, close to the BRL 10,4bn speculated in the last funding round with TCV and advertised in the press (99). The estimated profit would be BRL 131,9mn, which would mean a 33% margin related to the initial investment in only one year. Moreover, a sensitivity analysis was performed to evaluate a variation in the proposed ownership and in the exit valuation to access the corresponding profit in each case (Exhibit 36).

	Exit Valuation										
Proposed Ownership	12.500	13.000	13.500	14.000	14.500	15.000	15.500	16.000	16.500	17.000	17.500
0%	-400,0	-400,0	-400,0	-400,0	-400,0	-400,0	-400,0	-400,0	-400,0	-400,0	-400,0
1%	-311,3	-307,8	-304,3	-300,7	-297,2	-293,6	-290,1	-286,5	-283,0	-279,4	-275,9
2%	-222,7	-215,6	-208,5	-201,4	-194,3	-187,2	-180,1	-173,0	-166,0	-158,9	-151,8
3%	-134,0	-123,4	-112,8	-102,1	-91,5	-80,9	-70,2	-59,6	-48,9	-38,3	-27,7
4%	-45,4	-31,2	-17,0	-2,8	11,3	25,5	39,7	53,9	68,1	82,3	96,5
5%	43,3	61,0	78,7	96,5	114,2	131,9	149,6	167,4	185,1	202,8	220,6
6%	131,9	153,2	174,5	195,7	217,0	238,3	259,6	280,9	302,1	323,4	344,7
7%	220,6	245,4	270,2	295,0	319,9	344,7	369,5	394,3	419,1	444,0	468,8
8%	309,2	337,6	366,0	394,3	422,7	451,1	479,4	507,8	536,2	564,5	592,9
9%	397,9	429,8	461,7	493,6	525,5	557,4	589,4	621,3	653,2	685,1	717,0
10%	486,5	522,0	557,4	592,9	628,4	663,8	699,3	734,8	770,2	805,7	841,1

Exhibit 36 – Sensitivity analysis. Source: Authors

The green cells represent scenarios where the investors would profit after their exit. It shows that the assumed proposed ownership 1% over a situation with the same valuation in the future that would still bring BRL 25,5mn in profits and the original owners could be undervaluing their business and selling a share for a low price. However, the 5% ownership for BRL 400mn investment was a simple estimative based on press articles and since the deal was not disclosed, precise information might only be known in the future or never be released.

Conclusion

The creation and the development of Nubank as an enterprise is probably one of the best examples of how a fin-tech can thrive in a “blue ocean” market and definitely change the Brazilian financial landscape. The impact of the company on the market was so intense that many of the biggest and traditional players are revisiting and rethinking most of their actions towards digitalization and new technologies and innovations.

Regarding the growth of the fin-tech, it was only possible due to the multicultural and cross-skilled board of directors. Not only they could’ve covered bigger areas and have different insights, but by having a mixed team they fomented diversity within their own company, which became an essential lever to the company’s brand awareness and marketing actions.

Another vital important of the story was spotting critical pinpoints into the Brazilian banking system and providing efficient, innovative and, most important, user friendly solutions. The introduction of a fee-less card, fully digital and with an informal channel of communication between company and client made Nubank became a huge hit, especially between their target audience, the millennials.

The constant attention to keep the “startup” culture and environment brought a different perspective to the ecosystem. Not only the exterior public perceived Nubank as a startup-like company with huge numbers, most of the employees and the innovations it constantly brings to the market reinsures the disruptive spirit that the founders once had.

In financial terms, Nubank is still generating traction towards their profit, since in the last years they couldn’t meet all of their costs (in terms of internal analysis, not contemplating external fundings). Nevertheless, their revenue kept on growing and will soon surpass the costs, mostly due to all the investment made on developing their products and leveraging their user base, one of the core indicators for their future success.

The valuation of Nubank keeps increasing and reached an staggering US$ 10 billions. This could lead to one of the most expected IPOs in the Brazilian market, providing additional funds for the company to finance its operations in home soil and abroad.

The next few years are going to be decisive for Nubank and for the Brazilian banking market in general. The possible international expansion of the company, combined with the technological and business revolution brought by Nubank are going to change even more the way users perceive and interact with their banks.

Appendixes

	[dim]	2018	2017	2016	2015
INCOME STATEMENT					
Revenues	**[EURMln]**	**470.916 €**	**218.485 €**	**77.090 €**	**10.356 €**
Variation YoY	*[%]*	*115,54%*	*183,42%*	*644,40%*	*n.a.*
Operational revenues	[EURMln]	470.916 €	218.485 €	77.090 €	10.356 €
Variation YoY	*[%]*	*115,54%*	*183,42%*	*644,40%*	*n.a.*
% of Revenues	*[%]*	*100,00%*	*100,00%*	*100,00%*	*100,00%*
Cost of goods sold	**[EURMln]**	**(391.530) €**	**(173.789) €**	**(89.052) €**	**(20.210) €**
Variation YoY	*[%]*	*125,29%*	*95,15%*	*340,63%*	*n.a.*
Gross profit	**[EURMln]**	**79.386 €**	**44.696 €**	**(11.962) €**	**(9.854) €**
Variation YoY	*[%]*	*77,61%*	*-473,65%*	*21,39%*	*n.a.*
Costs	[EURMln]	(734.052) €	(479.823) €	(241.022) €	(39.441) €
Variation YoY	*[%]*	*52,98%*	*99,08%*	*511,10%*	*n.a.*
% of Revenues (i.e.: 1 - Gross Margin)	*[%]*	*155,88%*	*219,61%*	*312,65%*	*51,16%*
Net staff costs (-)	[EURMln]	152.061 €	85.453 €	56.563 €	17.960 €
Variation YoY	*[%]*	*77,95%*	*51,08%*	*214,94%*	*n.a.*
% of Costs	*[%]*	*20,72%*	*17,81%*	*23,47%*	*7,45%*
Net administrative costs (-)	[EURMln]	91.924 €	56.335 €	41.297 €	9.651 €
Variation YoY	*[%]*	*63,17%*	*36,41%*	*327,90%*	*n.a.*
% of Costs	*[%]*	*12,52%*	*11,74%*	*17,13%*	*4,00%*
Other operational costs	[EURMln]	21.934 €	17.789 €	5.207 €	115 €
Variation YoY	*[%]*	*23,30%*	*241,64%*	*n.a.*	*n.a.*
% of Costs	*[%]*	*2,99%*	*3,71%*	*2,16%*	*0,05%*
Other operational revenues	[EURMln]	52.922 €	24.117 €	3.850 €	62 €
Variation YoY	*[%]*	*119,44%*	*526,42%*	*n.a.*	*n.a.*
% of Costs	*[%]*	*7,21%*	*5,03%*	*1,60%*	*0,03%*
Provision for doubtful liquidating credit (-)	[EURMln]	486.918 €	317.657 €	125.769 €	3.379 €
Variation YoY	*[%]*	*53,28%*	*152,57%*	*n.a.*	*n.a.*
% of Costs	*[%]*	*66,33%*	*66,20%*	*52,18%*	*1,40%*
Option plan for buying stocks (-)	[EURMln]	34.137 €	26.706 €	16.036 €	8.398 €
Variation YoY	*[%]*	*27,83%*	*66,54%*	*n.a.*	*n.a.*
% of Costs	*[%]*	*4,65%*	*5,57%*	*6,65%*	*3,48%*
Operating Profit (EBIT)	**[EURMln]**	**(654.666) €**	**(435.127) €**	**(252.984) €**	**(49.295) €**
Variation YoY	*[%]*	*50,45%*	*72,00%*	*413,20%*	*n.a.*
% of Revenues	*[%]*	*139,02%*	*199,16%*	*328,17%*	*63,94%*
Net Financial Result	[EURMln]	538.360 €	261.154 €	57.721 €	16.521 €
Variation YoY	*[%]*	*106,15%*	*352,44%*	*n.a.*	*n.a.*
% of Revenues	*[%]*	*-114,32%*	*-119,53%*	*-74,87%*	*-21,43%*
Financial revenue	[EURMln]	762.249 €	348.845 €	99.978 €	17.748 €
Variation YoY	*[%]*	*118,51%*	*248,92%*	*463,32%*	*n.a.*
Financial Expenses	[EURMln]	(223.889) €	(87.691) €	(42.257) €	(1.227) €
Variation YoY	*[%]*	*155,32%*	*107,52%*	*3343,93%*	*n.a.*
Profit Before Tax (EBT)	**[EURMln]**	**(116.306) €**	**(173.973) €**	**(195.263) €**	**(32.774) €**
Variation YoY	*[%]*	*-33,15%*	*-10,90%*	*495,79%*	*n.a.*
% of Revenues	*[%]*	*24,70%*	*79,63%*	*253,29%*	*42,51%*
Corporate income tax	[EURMln]	16.015 €	56.975 €	72.941 €	€
Effective tax rate		-13,77%	32,75%	37,36%	0,00%
Net Income	**[EURMln]**	**(100.291) €**	**(116.998) €**	**(122.322) €**	**(32.774) €**
Variation YoY	*[%]*	*-14,28%*	*-4,35%*	*273,23%*	*n.a.*
% of Revenues	*[%]*	*21,30%*	*53,55%*	*158,67%*	*42,51%*

Appendix 1 – Nubank income statements from 2015 to 2018. Souce: Nubank

	[dim]	2018	2017	2016	2015
BALANCE SHEET					
Assets	**[EURMln]**	**10.720.124 €**	**4.715.197 €**	**2.147.135 €**	**618.897 €**
Non-Current Assets	[EURMln]	241.887 €	226.886 €	78.354 €	1.800 €
Financial instruments	[EURMln]	108 €	78.617 €	581 €	€
Tributary credit	[EURMln]	213.952 €	139.839 €	72.941 €	€
Imobilized	[EURMln]	20.076 €	6.436 €	5.786 €	1.988 €
Depreciation/amortization cumulated	[EURMln]	5.800 €	1.888 €	(1.060) €	(294) €
Intangibles	[EURMln]	1.951 €	106 €	106 €	106 €
Current Assets	[EURMln]	10.478.237 €	4.488.311 €	2.068.781 €	617.097 €
Cash and cash equivalents	[EURMln]	284.364 €	403.219 €	113.715 €	54.148 €
Financial instruments	[EURMln]	3.648.973 €	532.632 €	388.839 €	185.320 €
Receivables from credit cards	[EURMln]	6.293.507 €	3.507.402 €	1.435.539 €	313.936 €
Other credits	[EURMln]	230.069 €	41.298 €	128.696 €	60.834 €
Anticipated expenses paid	[EURMln]	21.324 €	3.760 €	1.992 €	2.859 €
Liabilities	**[EURMln]**	**9.601.759 €**	**4.050.811 €**	**1.696.576 €**	**311.241 €**
Current Liabilities	[EURMln]	9.601.759 €	4.050.811 €	1.696.576 €	311.241 €
Deposits	[EURMln]	2.436.015 €	75.126 €	€	€
Suppliers	[EURMln]	78.930 €	22.740 €	15.190 €	2.635 €
Wages, provisions and social contributions	[EURMln]	87.391 €	25.648 €	8.122 €	2.302 €
Payables from credit cards	[EURMln]	6.482.201 €	3.775.169 €	1.469.761 €	294.007 €
Tributary obligations	[EURMln]	54.506 €	19.126 €	6.402 €	370 €
Other obligations	[EURMln]	267.476 €	133.002 €	4.950 €	11.927 €
Loans and financing obligations	[EURMln]	195.240 €	€	192.151 €	€
Equity	**[EURMln]**	**1.075.194 €**	**360.226 €**	**450.517 €**	**307.656 €**
Equity attributable to shareholders of Parent Company	[EURMln]	1.075.194 €	360.226 €	450.517 €	307.656 €
Social capital	[EURMln]	1.368.171 €	587.049 €	587.049 €	337.902 €
Capital reserve		86.197 €	52.060 €	25.354 €	9.318 €
Cumulated losses	[EURMln]	(379.174) €	(278.883) €	(161.886) €	(39.564) €
Total Assets	**[EURMln]**	**10.720.124 €**	**4.715.197 €**	**2.147.135 €**	**618.897 €**
Total Equity and Liabilities	**[EURMln]**	**10.676.953 €**	**4.411.037 €**	**2.147.093 €**	**618.897 €**

Appendix 2 – Nubank balance sheets from 2015 to 2018. Source: Nubank

	[dim]	2018	2017	2016	2015
CASH FLOW STATEMENT					
Cash flow from Operating Activities (A)	**[EURMln]**	**85.525 €**	**247.614 €**	**(377.933) €**	**(245.561) €**
Proft for the year from countinuing activities before tax (EBT)	[EURMln]	(100.291) €	(116.998) €	(122.322) €	(32.774) €
Adjustments:	[EURMln]	576.278 €	315.456 €	61.583 €	15.638 €
Depreciation / amortization	[EURMln]	3.912 €	1.330 €	765 €	275 €
Provision for recuperable loss	[EURMln]	486.918 €	317.657 €	125.769 €	3.379 €
Diferred fiscal active	[EURMln]	(74.113) €	(66.989) €	(72.941) €	€
Result of future exercises	[EURMln]	24.546 €	17.371 €	42 €	€
Provisions for contingencies	[EURMln]	35.821 €	19.381 €	€	€
Variation of fair value	[EURMln]	3 €	€	€	€
Interest and cambial variation of loans	[EURMln]	65.054 €	€	(8.088) €	3.586 €
Stock options	[EURMln]	34.137 €	26.706 €	16.036 €	8.398 €
Changes in net working capital:	[EURMln]	(390.462) €	49.156 €	(317.194) €	(228.425) €
Raise in imobiliary titles (negotiation)	[EURMln]	(2.046.125) €	(78.231) €	(196.011) €	(216.978) €
Raise in other credits	[EURMln]	(3.461.794) €	(2.397.850) €	(67.862) €	(2.018) €
Reduction in other values and assets	[EURMln]	(17.564) €	(1.768) €	19.242 €	1.535 €
Raise in deposits		2.360.889 €	75.126 €	€	€
Raise in interfinancial relations		2.707.032 €	€	(71.618) €	(22.901) €
Raise in other obligations		126.979 €	2.451.879 €	(6.977) €	11.641 €
Interest payment	[EURMln]	(59.879) €	€	6.032 €	296 €
Cash flow from Investing Activities (B)	**[EURMln]**	**(200.455) €**	**(170.407) €**	**(3.798) €**	**(1.335) €**
Buying (selling) of imobiliary titles and assets, expect for negotiation	[EURMln]	(177.146) €	(165.480) €	€	€
Acquisition of imobilized asset	[EURMln]	(21.464) €	(4.927) €	(3.798) €	(1.335) €
Acquisition of intangible asset	[EURMln]	(1.845) €	€	€	€
Cash flow from Financing Activities (C)	**[EURMln]**	**818.424 €**	**85.596 €**	**441.298 €**	**300.124 €**
Raise in capital	[EURMln]	781.122 €	€	249.147 €	300.124 €
Resources taken	[EURMln]	228.787 €	85.596 €	€	€
Loans amortization	[EURMln]	(191.485) €	€	192.151 €	€
Increase/(Decrease) in cash and cash equivalents (A+B+C+D)	**[EURMln]**	**703.494 €**	**162.803 €**	**59.567 €**	**53.228 €**
Cash and cash equivalents at the beginning of the year (E)	**[EURMln]**	**665.357 €**	**502.554 €**	**54.148 €**	**920 €**
Cash and cash equivalents at the end of the year (A+B+C+D+E)	**[EURMln]**	**1.368.851 €**	**665.357 €**	**113.715 €**	**54.148 €**

Appendix 3 – Nubank cash flow statements from 2015 to 2018. Source: Nubank

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