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Itaú Unibanco S.A.: A case about innovation in a traditional bank

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1. Case Study

1.1 Introduction

Itaú Unibanco Holding S.A. is a Brazilian bank and one of the largest financial conglomerates in the world. With shares listed in both BM&F Bovespa stock exchange in São Paulo and NYSE in New York, it is the largest bank in Latin America and the 18th in the world by market capitalization with a value of US\$73.344 billion.¹ The headquarters are located in São Paulo, but the bank has operations in 19 countries, nine of which are Latin American (detailed overview in Exhibit 1), employing 94,779 people². The other countries in which the bank operates are: the United States, the Bahamas, the United Kingdom (including the Cayman Islands), Portugal, Spain, France, Germany, Japan, China (Hong Kong) and the United Arab Emirates.



Exhibit 1 – Bank presence in Latin America

It was a result of a merger between two major Brazilian banks in 2008, Itaú (controlled by the Egydio de Souza Aranha Family) and Unibanco (controlled by the Moreira Salles Family). At the time, they were the third and fifth largest Brazilian banks in terms of total assets respectively, forming together the largest financial institution in the country³.

¹ Relbanks, 2017. *Top International Banks*. [Online] Available at: <https://www.relbanks.com/worlds-top-banks/top-international-banks> [Accessed 19 August 2017].

² Itaú Unibanco Holding S.A., 2016. *Consolidated Annual Report 2016*, São Paulo: s.n. CSBs stands for Corporate Site Branch.

³ KNOWLEDGE@WHARTON, 2008. *Itaú-Unibanco: Forging a Brazilian Financial Giant at a Time of Crisis*. [Online] Available at: <http://knowledge.wharton.upenn.edu/article/itau-unibanco-forging-a-brazilian-financial-giant-at-a-time-of-crisis/#> [Accessed 21 August 2017]

After that, a series of events followed resulting in the expansion of the group starting in 2009 with an association with Porto Seguro, a Brazilian insurance company. Itaú Unibanco's stake in Porto Seguro was evaluated at R\$1.7 billion at the time by its CEO, Roberto Setúbal⁴, and the purchase made the group the leader in the automotive insurance market.

Then, in in 2012, an association with Brazilian bank Banco BMG for payroll loan transactions and the acquisition of total outstanding shares of Redecard, a multi-brand acquirer born in 1970 from a partnership between Itaú, Unibanco and Citibank. The bank spent R\$10.5 billion on this deal⁵.

Later, in in 2013, the acquisition of 100% of the shares of Banco Citicard S.A. and Citifinancial Promotora de Negócios S.A. for R\$2.77 billion⁶, from Citibank. They were responsible for the offer and distribution of financial products and services of the brand "Credicard" (which was included in the deal), mainly credit cards and personal loans. The deal further strengthened Itaú Unibanco's position as the national credit card issuer leader. In addition, a joint venture with CorpBanca in Chile positioned the bank as the 4th largest bank there by total loans and the 5th in Colombia⁷.

The year of 2015 involved several investments, starting with the opening of the Technological Center Mogi Mirim, Latin America's largest green data center, and an alliance with MasterCard Brazil Soluções de Pagamento Ltda., in the market of payment solutions. The brand Redecard also expanded, acquiring 50% of the capital stock of ConectCar Soluções de Mobilidade Eletrônica S.A., a company that provides the service of electronic payment of tolls, parking lots and gas stations, from Odebrecht Transport. A Sales and Purchase Agreement for the acquisition of 81.94% of the capital stock of Recovery do Brasil Consultoria S.A., a credit recovery company, from the bank BTG Pactual, completes the investments.

Finally, in 2016, the bank received the approval for the merger between Banco Itaú Chile and CorpBanca, resulting in a new subsidiary called Itaú CorpBanca that further advanced the bank's internationalization process. Itaú Unibanco also acquired the totality of participations at Banco Itaú BMG Consignado S.A., born in 2012 from the

⁴ Reuters, 2009. *UPDATE 3-Itaú Unibanco, Porto Seguro in insurance merger*. [Online] Available at: <http://www.reuters.com/article/itau-portoseguro-idUSN2413528720090824> [Accessed 21 August 2017].

⁵ Reuters, 2012. *Itaú tem sucesso e paga R\$10,5 bi para tirar Redecard da bolsa*. [Online] Available at: <http://br.reuters.com/article/businessNews/idBRSPE88N05W20120925> [Acesso em 21 August 2017].

⁶ Reuters, 2013. *Itaú to buy Citigroup consumer finance business in Brazil*. [Online] Available at: <http://www.reuters.com/article/us-credicard-brazil-itaunibanco-idUSBRE94D18O20130514> [Accessed 21 August 2017].

⁷ Itaú Unibanco, 2013. *Our History*. [Online] Available at: <http://www.itauprivatebank.com/en-US/our-history> [Accessed 22 August 2017].

association with Banco BMG, for R\$1.46 billion⁸. In October, Itaú Unibanco agreed to buy Citigroup's retail-banking business unit for R\$710 million, reinforcing the bank's presence in the wealth management segment⁹.

Due to those associations and acquisitions, the bank has the current ownership structure observable on Exhibit 2.

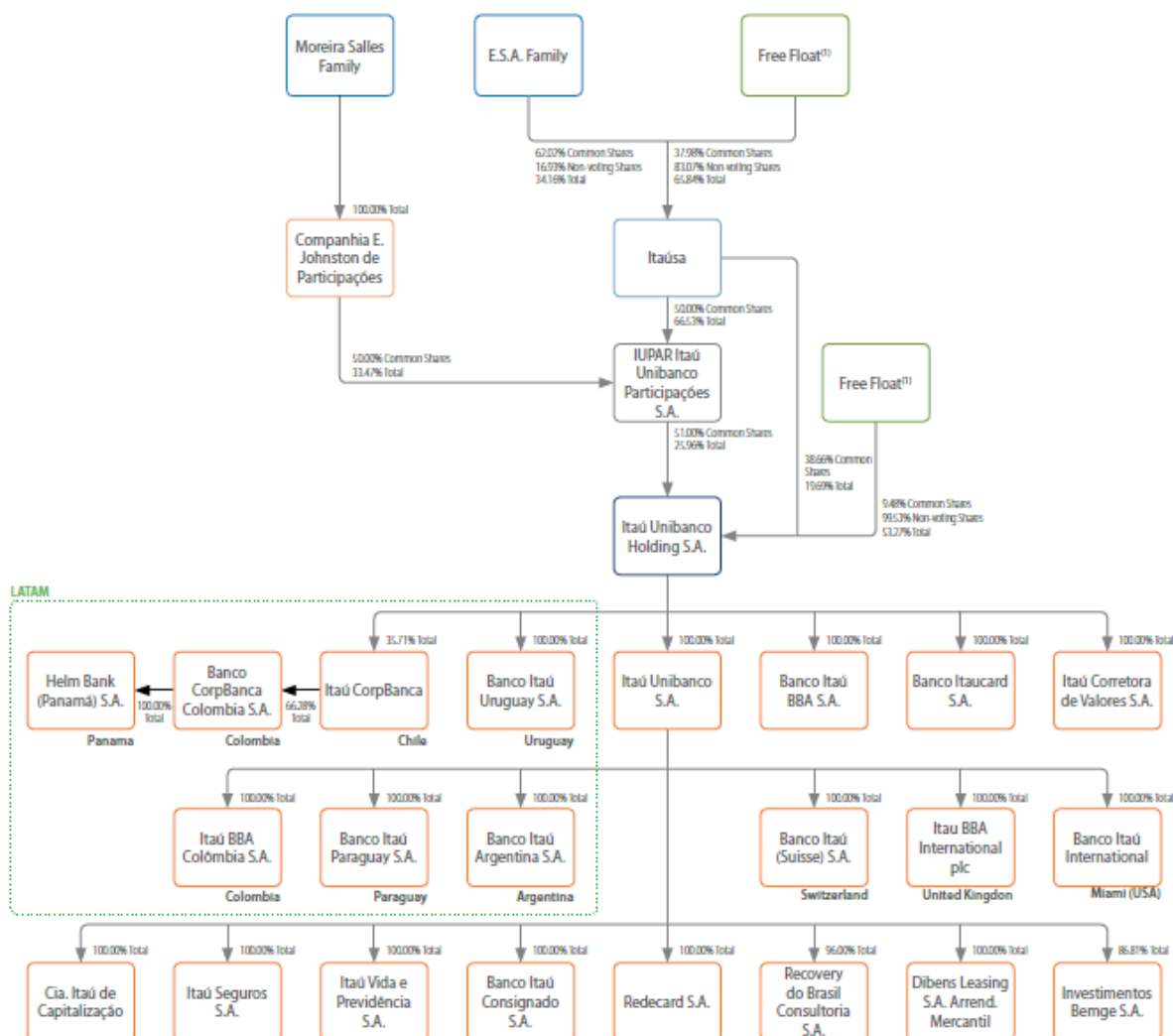


Exhibit 2 – Itaú Unibanco Holding S.A. Ownership Structure

⁸ Reuters, 2016. *Brazil's Itaú Unibanco buys 40 percent of Banco Itaú BMG for 1.46 billion reais.* [Online] Available at: <http://www.reuters.com/article/us-oncor-m-a-sempraenergy-idUSKCN1B1041> [Accessed 21 August 2017].

⁹ Bloomberg L.P., 2016. *Citigroup Sells Brazil Retail Unit to Itau for \$220 Million.* [Online] Available at: <https://www.bloomberg.com/news/articles/2016-10-08/citigroup-to-sell-brazil-retail-unit-to-itau-for-220-million> [Accessed 21 August 2017].

1.2 Itaú Unibanco's Main Business Segments

Today, Itaú Unibanco reports three main segments: Retail Banking, Wholesale Banking and Activities with the Market and Corporation.

Retail Banking

The Retail Banking segment offers services to account and non-account holders, both individual and companies. It includes retail clients, high-income clients and the very small and small companies. The main sources of revenues for this segment is the offer of banking products to those clients, in addition to financial products and services offered to non-account holders, such as vehicle financing, credit cards offered outside the branch network and payroll loan operations.

More specifically, the Retail Banking is segregated according to customer profiles. The core business is the Itaú Retail Banking (Individuals), for clients with a monthly income up to R\$4000. Itaú Uniclass services are available at every branch for clients who earn between R\$4,000 and R\$10,000 monthly, which include investments advisory, exclusive cashiers, special telephone services, higher credit limits and dedicated relationship managers.

On the other hand, the sub-segment Itaú Personalité serves individual with an income higher than R\$10,000 or investments over R\$100,000. Its focus is providing specific financial advisory, a large portfolio of exclusive products and services and special benefits based on the type and length of relationship with the client. Itaú Personalité counts with 275 branches located in the major Brazilian cities and provides a "digital bank platform".

The Itaú Empresas sub-segment provides credit for microenterprises (companies with annual revenues up to R\$1.2 million) and small business (companies with annual revenues between R\$1.2 million and R\$30 million).

The last sub-segment is the Public Sector, which operates in all divisions of the public sector, including federal, state and municipal governments in the Executive, Legislative and Judicial branches. It counts with a separate platform from the other retail branches and offers solutions in tax collection, foreign exchange services, administration of public assets, payments to suppliers and payroll for civil and military servants and retirement.

Wholesale Banking

The Wholesale Banking segment is responsible for the private banking clients, the activities of Latin America units, the middle-market banking business (for companies with annual revenues between R\$30 million and R\$300 million) and the activities of Itaú BBA, the unit in charge of corporate and investment banking activities. The corporate activities include providing banking services to large corporations (companies with annual revenues over R\$300 million).

It is also divided in sub-segments, the first being Investment Banking. It assists companies raising capital through fixed income and equity instruments in public and private capital markets, and also advises companies, private equity funds and investors in the structuring of variable income products and in mergers and acquisitions.

The Itaú Private Banking offers a wealth management platform that counts with products and services both from in-house and third-party providers. It is the national leader in private banking, with a market share of 27%, and one of the main players in Latin America.

The third sub-segment is Itaú Asset Management, responsible for managing clients' assets. It has over R\$570.0 billion assets under its management.

Itaú Security Services provides local custody and fiduciary services, international custody services and corporate solutions, acting as transfer agent and stockholder servicer for Brazilian companies issuing equity, debentures, promissory and bank credit notes. It also works as guarantor in transaction for project finance, escrow accounts and loan and financing contracts. The main clients are pension funds, insurance companies, asset managers, international institutional investors and equity and debt issuers.

Finally, Itaú Corretora provides brokerage service in BM&FBovespa. The same service is also provided to international clients through a broker-dealer in New York.

Activities with the Market and Corporation

Lastly, the Activities with the Market and Corporation segment manages interest income related to their capital surplus, subordinated debts surplus and the net balance of tax credits and debts. It also manages net interest income from the trading of financial instruments through proprietary positions, management of currency interest rate gaps and other risk factors, arbitrage opportunities in the foreign and Brazilian domestic markets, and mark-to-market of financial instruments. It includes the interest in Porto Seguro.

One can see the individual contributions of each segment to the Statement of Income of 2016 below, on Exhibit 3. Please note, however, that the total sum of each category does not coincide with the values reported on the Consolidated Statement of Income, as the adjustments were omitted. For the Consolidated Statement of Income and Balance Sheet, consult the Appendix.

Statement of Income from January 1 to December 31, 2016 - per segment	Retail Banking	Wholesale Banking	Act. w/ the Market + Corp.	Itaú Unibanco
(In millions of R\$)				
Banking product	69,577	28,324	9,412	107,313
Interest margin	39,154	19,755	9,264	68,173
Banking services fees	22,659	8,072	59	30,790
Income relates to insurance, private pension and capitalization operations before claim and selling expenses	7,764	497	89	8,350
Other revenues	-	-	-	-
Losses on loans and claims	(14,901)	(8,471)	71	(23,301)
Expenses for allowance for loan and lease losses	(16,717)	(8,914)	71	(25,560)
Recovery of credits written off as loss	3,242	502	-	3,744
Expenses for claims/ recovery of claims under reinsurance	(1,426)	(59)	-	(1,485)
Operating margin	54,676	19,853	9,483	84,012
Other operating income (expenses)	(37,202)	(13,410)	(2,387)	(52,999)
Non-interest expenses	(32,883)	(12,034)	(1,616)	(46,533)
Tax expenses for ISS, PIS and COFINS and other	(4,319)	(1,376)	(771)	(6,466)
Share of profit or (loss) in associates and joint ventures	-	-	-	-
Net income before income tax and social contribution	17,474	6,443	7,096	31,013
Income tax and social contribution	(6,328)	(1,081)	(1,237)	(8,646)
Non-controlling interests in subsidiaries	(223)	79	(1)	(145)
Net income	10,923	5,441	5,858	22,222

Exhibit 3 – Statement of Income, as of 2016, per segment

1.3 Loan Portfolio

The composition of the loan portfolio was constructed over the years to focus on lower risk segments with increased guarantees.

Credit Cards and Commercial Agreements

The Brazilian credit market is very competitive, with a yearly average growth of 10.0% over the last 4 years. Still, Itaú Unibanco is the national leader, offering credit and debit cards to over 55.0 million clients through proprietary and partnership operations with big retailers, telephone carriers, automakers and airline companies.

In May 2016, the bank made a partnership with Netshoes, a major Brazilian e-commerce for sporting goods, to develop a 100% digital card called NCARD Itaúcard. The evaluation process for possible clients is immediate and automatic. In addition, in case of approval, the client can instantly purchase goods from the site, without the need to wait for the physical version.

In July 2016, Itaú Unibanco entered in agreements with Multiplus, a large rewards and loyalty programs company. Together, they launched a co-branded card, which aimed to be the best option for accumulating market points.

The bank also improved its mobile application, adding the feature of creating a Virtual Card. It had over 5.7 million downloads by the end of 2016.

Payroll Loans

In a payroll loan, the installments are directly deducted from the borrower's payroll, making it a very safe form of loan for the lender. As mentioned earlier, Itaú Unibanco diversified its loan portfolio and expanded its business in payroll loan in 2012 with an association with Banco BMG. The acquisition of BMG's stake in 2016 further strengthened the bank's position in the segment, improving the risk profile of the portfolio of loans to individuals.

Vehicle Financing

While the portfolio of vehicle financing to individual decreased 23.1% in 2016 in relation to the previous year (amounting to R\$1.54 billion), the average loan-to-value ratio went from 70.8% to 68.1%, signaling a reduction in the exposure to risk. The average term of financing was of 40 months, and half of the contracts were carried out with terms up to 36 months.

The bank developed new products and services in 2016, starting with a Digital Platform. Participating stores and associated car dealers use it as a direct channel for origination, service and formalization of payments. Itaú Unibanco also implemented a Customer Risk based pricing policy, which uses both the customer's credit risk profile and the transaction term, entry and year of the vehicle to calculate the interest rate. Finally, the bank invested in the process intelligence and automation of iCarros, a digital platform where clients can search, select and finance the acquisition of used and new cars. The portal uses this new technology to make credit simulations and pre-analysis, showing the risk adjusted finance rates to the potential customer. By the end of the year, 15% of all vehicle financing were initiated through iCarros.

Real Estate Financing and Mortgages

The mortgage business has a high strategical importance, as it is used to create loyalty from the client and contributes to his social and financial development. The bank has a great reach due to a partnership with RE/ MAX and a joint venture with LPS Brasil Consultoria de Imóveis S.A., called Credipronto (both are real state companies). In addition, the short average period of 10 working days between receiving the requisition document and finalizing the financing works as an important competitive advantage, which helped the bank to achieve a leading position in the market.

The mortgages to individuals amounted R\$ 8.2 billion in 2016, against R\$ 10.5 billion in 2015. However, once again the Loan to Value Ratio fell, from 43.7% to 41.8%.

Micro Credit

The Microcredit segment aims to help low-income entrepreneurs who do not qualify for the usual loans available in the financial system expanding and developing

their business. The loans can be used to cover working capital, upgrades and fixed assets, both to formal and informal small business people. Although its main role is to consolidate the bank's strategy to act as agent of transformation in society, the microcredit program also introduces those entrepreneurs to the formal financial system, which may work as a source of future clients.

Consortia

The consortia is a form of auto-financing created in Brazil, usually aimed at the purchase of vehicles or real estate. The participants are pooled according to the desired asset elected for purchase and must contribute through installments. The payments are used to create a fund which is used for, at each certain period of time (for example, a month), one or more participants acquiring the asset. The definition of which participants will be able to make the purchase each turn can be random and/ or follow rules that considerate the individual contribution. Of course, the participants must keep paying the installments after they acquire the asset.

As the consortia does not charge interest rates, revenues come mainly from administrative fees. On the other hand, according to the Brazilian law, managing consortia does not increase the risk of default or regulatory capital requirements for institutions. Therefore, it is a strategic business as it diversifies the sources of revenue of the bank and complement the loan portfolio. However, between 2015 and 2016, the number of installments receivables fell 8.9% (reaching R\$10.7 billion) and the revenues from administration fees decreased 1.3% (reaching R\$675.0 million).

Merchant Acquirer

Itaú Unibanco has a multi-brand acquirer business unit, for credit, debt and benefits cards called Rede (the former Redecard). Its activities includes: merchant acquiring, capturing, transmission, processing and settlement of credit and debit card transactions, prepayment of receivables to merchants resulting of credit card payments, rental of POS terminals, check verification through POS terminals and capturing and transmission of transactions using coupons, and loyalty programs.

Rede focus on IT investments with the objective of becoming the market leader, offering up-to-date products and services such as the Mobile Rede, a device capable of capturing the transaction when attached to a smartphone or tablet. In 2016, Rede launched Smart Rede, a generation of terminals with an internal App Store where the merchant can download solutions to assist managing and controlling the business. In the same year, the business unit launched Control Rede, a platform that facilitates the financial control over receivables. In addition, Rede launched its digital wallet solution Rede Pay.

Other products and services portfolio

Itaú Unibanco insurance business offers life and personal accident products, automobile and property insurance, credit insurance and travel insurance. However, the core activities are the distribution of mass-market insurance products related to life, property and credit, which include the bank's 30% stake in Porto Seguro

The bank also offers private pension plans to its clients, as an option for wealth and inheritance planning and income tax purposes, as the products can be tax deferred.

Lastly, the bank offers Premium Bonds (“títulos de capitalização”, in Portuguese, that can be translated into capitalization plans). These kind of bonds works with the client making a one-time or monthly deposits. By the end of the term, a fixed sum is returned, usually offering very low return rates. However, by owning a premium bond, one qualifies to participate in periodic raffles that give the opportunity to win cash prizes.

1.4 History

1.4.1 History of Itaú

The first branch opened in January 2, 1945, as Banco Central de Crédito¹⁰, constructed by Alfredo Egydio de Souza Aranha. Later, in 1952, the bank changed its name to Banco Federal de Crédito, as the name “Banco Central” would be used by the government for the national financial authority¹¹.

After almost 20 years of organic growth, the bank entered a period of mergers between 1964 and 1969, starting with the union of Banco Federal de Crédito with Banco Itaú, a rural bank from the countryside of the state of Minas Gerais, to form Banco Federal Itaú S.A.¹². By that time, the bank had 112 branches in 6 states of the country. Later, a merger in 1966 with Banco Sul Americano S.A. followed, increasing the number of branches to more than 180. The period ended with the union with Banco da América, resulting in the Banco Itaú América S.A.. The bank had 274 branches, ranking as the 7th largest bank, and a capital of US\$14.8 million.

The seventies also were a period of fast growth, starting in 1970 with the acquisition of Banco Aliança. After the acquisition of the Banco Português do Brasil in 1973, the bank changed its name to Banco Itaú S.A. and had control over 468 branches, more than any other private bank at the time. The acquisition of Banco União Comercial in 1974 increased this number to 561. In 1979, Itaú created Itautec, its technology division, and by the end of the decade, in 1980, the bank opened the first international branches in New York and Buenos Aires.

In the eighties, Itaú assumed a much more conservative stance due to a disturbed economic and political scenario. The country lived the last years of its dictatorship, with a growing discontent of the population, and the high levels of national debt resulted in a hyperinflation period. The bank slowed down the inorganic growth process, acquiring only one small bank called Banco Pinto de Magalhães. Investments in technology paid off in 1983, when Itaú was the first bank to install the “Banco Eletrônico” (ATM).

¹⁰ Reference for Business, 1996. *Banco Itaú S.A.*. [Online] Available at: <http://www.referenceforbusiness.com/history2/25/Banco-Ita-S-A.html> [Accessed 22 August 2017].

¹¹ Wikipedia, 2017. *Banco Itaú Holding Financeira*. [Online] Available at: https://pt.wikipedia.org/wiki/Banco_Ita%C3%BA_Holding_Financeira [Accessed 22 August 2017].

¹² Itaú Unibanco Holding S.A., 2008. *History of Banco Itaú S.A.*. [Online] Available at: <http://ww13.itaubank.com.br/portalri/html/ing/conheca/historia.htm#topo> [Accessed 20 August 2017].

After the stabilizing the inflation with the Real Plan as Ministry of Finance, in 1994, Fernando Henrique Cardoso won the presidential elections. Now with a much more stable scenario, Itaú boosted its international expansion, opening in the same year subsidiaries in Argentina (Itaú Argentina), Europe (Banco Itaú Europa) and Cayman (Itaú Bank). In 1995, the bank restarted its inorganic expansion acquiring BFB – Banco Francês e Brasileiro, which boosted the presence in the segment of high-income clients, treasury and corporate banking. In addition, Itaú took part in a joint venture after a strategic alliance with Bankers Trust New York in 1996, founding the investment bank division Itaú Bankers Trust. Later, in 1997, Itaú acquired Bamerindus Luxemburg, now Banco Itaú Europa Luxembourg; and in 1998, Banco del Buen Ayre, which was incorporated into Itaú Argentina. In the same decade, after successful bids in auctions promoted by the government to privatize some banks, Itaú acquired Banerj (from the state of Rio de Janeiro) in 1997, Bemge (from the state of Minas Gerais) in 1998, Banestado (from the state of Paraná) in 2000 and BEG (from the state of Goiás) in 2001.

One of biggest steps happened in 2002, when the bank made an association with the controlling group of Banco BBA-Creditanstalt S.A.. When the division, already named Itaú BBA, started operating in 2003, it was already the largest wholesale bank in the country. In the same year, Itaú acquired Banco Fiat, absorbing all of Fiat's automotive financial activities. It also acquired Banco AGF, AGF Vida e Previdência and the life and pension portfolios of AGF Brasil Seguros, a big step to increase the participation in the insurance market. By the end of the year, Itaú was ranked as the first bank in Brazil in market capitalization.

In 2004, Itaú was ranked for the third consecutive year as the most valuable Brazilian brand by Interbrand (US\$1,204 billion). The bank also advanced in the consumer credit market through an alliance with Pão de Açúcar Group (a major retailer), creating Financeira Itaú CBD S.A., and in the credit card market, with a greater share of the capital stock of the Credicard Conglomerate. The bank also opened a Tokyo branch, further expanding internationally. In the next year, Itaú would also make an agreement with banks BPI, from Portugal, UniCredit, from Italy, and La Caixa, from Spain, which made possible for Brazilian living overseas to send money through Itaú to their home country, using the branches of those banks.

Later, in 2006, the bank signed, together with Bank of America Corporation, an agreement to acquire BankBoston operations in Brazil and for the exclusive rights to acquire the operations in Chile and Uruguay, as well as other customer financial assets in Latin America. In addition, there was also an agreement between Banco Itaú Europa S.A., its subsidiary in Luxembourg and again Bank of America Corporation to acquire the entire capital of BankBoston International. Itaú also invested in its reputation, by obtaining the certification of compliance with the U.S. Sarbanes-Oxley Act and signing up to the revised edition of the Equator Principles. As for internationalization, Itaú Corretora (Brokerage) opened offices in Hong Kong, and the bank bought the Banco Banespa's Tokyo branch.

As for the last year before the merger with Unibanco, Itaú obtained approval for the acquisition of BankBoston's operations in Chile and Uruguay. It also opened Kinea, an investment company specialized in Hedge Funds, Real Estate and Private Equity, and in the first nine months of 2017, the bank registered record profits of R\$6.444 billion. It was selected for the eight consecutive year to comprise the DJSI World and for the fifth consecutive year the most valuable Brazilian brand by Interbrands, with a value of US\$ 3.792 billion.

1.4.2 History of Unibanco

Unibanco was founded in 1924, when João Moreira Salles opened the Seção Bancária da Casa Moreira Salles, in the city of Poços de Caldas, state of Minas Gerais¹³. In 1931, it would change its name to Casa Bancária Moreira Salles, a wholesale bank which main activities were the financing of government activities and grand hotels¹⁴. Later, in 1940, the bank changed its name to Banco Moreira Salles after an expansion program, opening branches in Rio de Janeiro, in 1941, and in São Paulo, in 1942. By the end of 1945, the bank counted with 34 offices.

Fourteen years later, in 1959, the bank had expanded considerably, achieving 167 branches. The expansions process continued with the construction of a 33-story office building in São Paulo in 1964 and the addition of an investment banking division in 1966.

The institution finally changed its name to Unibanco (which means União de Bancos Brasileiros, or Union of Brazilian Banks in English) in 1967, after a merger with Banco Agrícola Mercantil, from the state of Rio Grande do Sul, and several other small financial institutions. The merger with Banco Agrícola Mercantil was very positive, as its network of 120 branches were located in different regions than of Banco Moreira Salles'. As a result, Unibanco was born as the fourth largest private bank, with over 330 branches in 10 states and over a million depositors. However, as the executives of Moreira Salles kept the presidency, vice presidency and two positions of directors, many saw it as an acquisition.

By 1980, Unibanco had 20 subsidiaries, which included: a brokerage; insurance, real estate, credit card and import-export agencies; custody and asset management units; a publishing, printing and advertising unit; and three tourism agencies. In the same year, the bank opened a branch in New York, and invested in the wealth management segment. In the next year, Unibanco acquired Banco Mineiro, of the state of Minas Gerais, and in 1983 introduced ATMs in its services, just after Itaú.

Unibanco started in the nineties big, counting with Bank of America, Japan's Kangyo Bank Ltd. and Germany's Commerzbank A.G. as shareholders. It also was the local advisor and administrator of Morgan Stanley's Brazilian investment fund, had R\$4.5 billion in assets and accounted for 20% of the national market of debt and equity issues. In 1993, already with 438 branches, the bank invested in economies of scale by attracting ordinary depositors, increasing its assets to R\$9.6 billion by 1994.

The biggest step was the acquisition of Banco Nacional S.A. in 1995. Banco Nacional was almost the same size as Unibanco and offered very similar products and

¹³ Wikipedia, 2017. *Unibanco*. [Online] Available at: <https://pt.wikipedia.org/wiki/Unibanco> [Accessed 24 August 2017].

¹⁴ Reference for Business, 2004. *Unibanco Holdings S.A.*. [Online] Available at: <http://www.referenceforbusiness.com/history/UI-Vi/Unibanco-Holdings-S-A.html> [Accessed 24 August 2017].

services, but with depositors considerably less wealthy and was on the edge of bankruptcy. As a result, Unibanco grew to 2.1 million clients and R\$ 23.8 billion in assets.

In the next year, the bank would further expand the presence in the lower middle-class segment by acquiring half of Fininvest, Brazil's largest consumer finance institution. Still in 1996, Unibanco acquired the large Paraguayan bank Iterbanco and a stake in the Uruguayan bank Surinvest. Later in 1997, the bank entered in a partnership with American Insurance Group, Inc., in which Unibanco acquired half of AIG Brasil Companhia de Seguros and AIG acquired almost half of Unibanco's insurance subsidiaries.

The inorganic expansion process restarted in 2000 with the acquisition of Banco Bandeirantes S.A., Banco Creditbanco S.A. and the Portuguese Caixa Geral de Depósitos, increasing the number of points of sale to 1,623 and the account holder to four million. This number would increase to five million in 2001, but Unibanco was still lagging behind the competitors Bradesco and Itaú, both with over 11 million account holders each. To counter this, the bank invested heavily in marketing, relaxed the monthly earnings requirements for an account, opened more mini branches in supermarkets and other heavily frequented places and exploited Fininvest customer base.

Later, in 2004, the bank invested in the credit card market by acquiring HiperCard, a strong player in Brazil's northeast, and in the consumer finance/ personal loan market with the purchase of Creditec-Crédito Financiamento e Investimentos S.A.. The bank also acquired Banco BNL de Brasil S.A., to promote further growth. The bank would end the year with 895 branches, plus a separate network of 380 branches that offered retail-banking service to employees of corporate clients, 253 Fininvest stores and over 7,500 ATMs across the country.

The bank would continue to grow until the merger. In 2005, it achieved record profits of R\$ 1.838 billion, substantially higher than the R\$ 1.283 of the previous year¹⁵. In 2007, the number grew to R\$ 3,448 billion¹⁶.

1.4.3 The Merger

In fact, the two banks had already considered merging ten years before, in 1998¹⁷. When the privatization process of the bank Banespa began, Itaú approached Unibanco with the intent of a joint acquisition. However, due to the high risk of the

¹⁵ Folha de S. Paulo, 2006. *Unibanco fecha 2005 com lucro recorde de R\$ 1,838 bilhão*. [Online] Available at: <http://www1.folha.uol.com.br/folha/dinheiro/ult91u105285.shtml> [Accessed 24 August 24].

¹⁶ UOL, 2008. *Lucro do Unibanco dobra em 2007 e atinge R\$ 3,448 bilhões*. [Online] Available at: <https://economia.uol.com.br/ultnot/2008/02/14/ult4294u1021.jhtm> [Accessed 24 August 2017].

¹⁷ Villalonga, B., Davis, J. A. & Pinho, R. R. d., 2012. *Itaú Unibanco (A): The Merger Process*. Boston: Harvard Business School Publishing.

operation, Unibanco's response was a proposition of a merger between the two banks. At the time, they were the second and third largest private banks of the country behind Bradesco and, although Itaú was considerably larger, both shared similarities in the family control, vision and culture. Nonetheless, the deal fell apart due to disagreements about the design of the possible new company.

The plans came back to life in August of 2007, when Santander announced its participation in the acquisition of ABN-Amro. The latter was the owner of Banco Real, which was about the same size as Unibanco, putting a foreign bank as a strong contender for the market leadership.

Both banks soon realized the potential of the new organization, which would lead the market in several segments. They would complement each other in some of them, such as insurance and consumer finance, in which Unibanco was stronger, and automotive loans, where Itaú had the lead. In the others, due to a significant overlap, large cost savings were possible.

After 15 months of conversation, with the financial crisis working as the final catalyzer, the deal was closed creating the largest private financial conglomerate of the southern hemisphere. The new national leader both in assets (R\$ 575 billion) and market capitalization (US\$ 41.323) was born on November 3, with over 4800 branches (18% of the market), 100,000 employees and 14.5 million account holders (18% of the market). Itaú Unibanco had 19% market share on loans, 21% in funds and deposits, 17% in insurance and 24% in pension plans¹⁸.

Due to a market research that revealed the greater strength of the Itaú brand, the Unibanco brand was gradually extinct. Roberto Setúbal, CEO of Itaú, remained the sole CEO of the new bank, whereas Pedro Moreira Salles, Unibanco's CEO, would serve as the Chairman of the Board.

1.4.4 Recent Events

Change of CEO

In May 2 of 2017, Itaú Unibanco changed its CEO. After 23 years leading the institution, Roberto Setúbal reached the age limit for the position, and Cândido Bracher was elected as the new president¹⁹. Right after the change, the new CEO sent a letter to all employees explaining his agenda, comprised of six challenges:

- Emphasize the focus on the client

¹⁸ UOL, 2008. *Itaú e Unibanco anunciam fusão e criam maior banco do hemisfério sul*. [Online] Available at: <https://economia.uol.com.br/ultnot/2008/11/03/ult4294u1817.jhtm> [Accessed 24 August 2017].

¹⁹ Estadão, 2017. *Bracher assume Itaú com carta de seis desafios*. [Online] Available at: <http://economia.estadao.com.br/noticias/geral,bracher-assume-itaui-com-carta-de-seis-desafios,70001761076> [Accessed 24 August 2017].

- Accelerate the digital transformation process
- Keep a high profitability
- Fortify people management
- Fortify risk management
- Advance on the internationalization process

Acquisition of XP Investimentos

In May 11 of 2017, Itaú Unibanco agreed to buy a stake in the brokerage firm XP Investimentos for R\$ 6.3 billion²⁰. The bank will pay R\$ 5.7 billion to shareholders General Atlantic LLC and Dyna III fund for their share of 49.9%. Additionally, Itaú Unibanco will inject R\$ 600 million into the company.

The deal also involves the purchase of two additional stakes of 12.5% in 2020 and 2022, which will increase the bank's share to 74.9%. Then, in 2024, the original partners will have the option to sell the remaining share, with the bank having the option to acquire it in 2033 if they decline to do so. However, until then, the partners will retain the majority of the voting shares²¹.

XP Investimentos is the largest independent investment company in Brazil, working in three segments: Financial Services, Asset Management and Capital Markets²². The company currently has R\$ 80 billion of assets under management²³.

The acquisition was very surprising for the market, as the investment company was planning an IPO. However, the association of Itaú gave XP both the raise in capital and the reputational reinforcement it desired, without the need to face all the challenges related to listing shares.

As for the reason that led Itaú Unibanco to acquire the company, it is very clear. XP Investimentos has been growing a lot in the past years preaching a speech against the control of traditional banks over the population's investment, an attitude that also

²⁰ Reuters, 2017. *UPDATE 1-Brazil's Itaú buys 49.9 pct in XP for \$2 bln.* [Online] Available at: <http://www.reuters.com/article/xp-investimentos-ma-itaunibco-hldg-idUSL1N1E035> [Accessed 24 August 2017].

²¹ Folha de S. Paulo, 2017. *Itaú compra 49,9% da XP, maior corretora do país, por R\$ 5,7 bilhões.* [Online] Available at: <http://www1.folha.uol.com.br/mercado/2017/05/1883307-itaunibco-fecha-acordo-para-comprar-participacao-na-xp-investimentos.shtml> [Accessed 24 August 2017].

²² XP Investimentos, 2016. *XP INSTITUCIONAL.* [Online] Available at: <http://institucional.xpi.com.br/clientesinstitucionais/en/> [Accessed 24 August 2017].

²³ XP Investimentos, 2017. *SOBRE A XP.* [Online] Available at: <https://investimentos.xpi.com.br/sobre/#/passo/1> [Accessed 24 August 2017].

contributed to the surprise of the market towards the deal. This means that, although Itaú is now the main investor behind the company, it will still pose as a competitor. In fact, the CEO of XP Investimentos himself said that he is “not in line with Itaú’s interests”²⁴.

A big part of XP Investimento’s success is due to the use of digital technologies. The company was one of the first to create a digital platform where the investor can choose where to put his money on, similar to a “supermarket for investments”. In addition, they invest a lot into the financial education of Brazilians, through the offer of several courses and their news website, “InfoMoney”. Even though the company does not have a significant market share to threaten the traditional banks, the acquisition is very strategic to mitigate possible changes in the industry structure.

Approval of the purchase of the retail-banking unit of Citigroup

Itaú Unibanco received approval from Brazil’s antitrust authority CADE for the acquisition of the retail-banking unit of Citigroup Inc.’s on August 27²⁵. However, the bank is now forbidden from acquiring any other financial institution for 30 months. It is important to notice that the deal with XP Investimentos is not under this restriction.

Launch of Credicard Zero

The bank launched, in the end of November, a credit card called “Credicard Zero”²⁶. The difference to a “normal” card is that the former does not have any annuity fees. This product, which targets mainly the younger public between 18 and 35 years old, was a direct response to the service offered by the fintech Nubank. It is important to mention that two major retail banks and direct competitors of Itaú, Bradesco and Banco do Brasil, had already launched a similar card before through a joint venture. Those three players will be better addressed and explained on the next topic.

1.5 Competitor’s Analysis

1.5.1 Traditional Banks

The Brazilian Financial Sector is largely dominated by six banks that together account for over than 80% of the sector’s total assets, as one can see on Exhibit 4.

²⁴ Benchimol, G., 2017. *'Não estou alinhado a interesses do Itaú', diz fundador da XP Investimentos* [Interview] (15 May 2017).

²⁵ Yahoo! Finance, 2017. *Itaú Unibanco (ITUB)-Citigroup Deal Gets Approval from Cade.* [Online]
Available at: <https://finance.yahoo.com/news/itau-unibanco-itub-citigroup-deal-140602714.html>
[Accessed 24 August 2017].

²⁶ Época Negócios , 2017. *Em contra-ataque ao Nubank, Itaú Unibanco lança Credicard Zero.* [Online]
Available at: <http://epocanegocios.globo.com/Empresa/noticia/2017/11/epoca-negocios-em-contra-ataque-ao-nubank-itau-unibanco-lanca-credicard-zero.html>
[Accessed 06 December 2017].

However, three of those banks are state-owned, placing Itaú Unibanco as the leader among private banks and other financial institutions.

Banco do Brasil (BB) is a full service commercial bank with some presence in the Wholesale Banking segment, being a strong competitor mainly on the Retail Banking segment. Even though it is state-owned, it works very similarly to a “normal bank”, unlike Caixa Econômica Federal (CEF). The CEF is under direct control from the Ministry of Finance and helps the federal government with the credit policy, being a major competitor in the Retail Banking sector and in some forms of loans such as real estate financing. The last state-owned bank on the list is the Banco Nacional de Desenvolvimento Econômico e Social (BNDES), whose goal is to provide long-term financing for projects that contribute to the country’s development, such as industrial and infrastructure endeavors. Therefore, it cannot be considered as a direct competitor.

On the other hand, Banco Bradesco and Santander are very similar to Itaú, with a strong presence in the Retail and Wholesale Banking segment. The other private banks are focused in certain segments and therefore are much smaller. The BTG Pactual is an investment bank, competing more directly with the Itaú BBA division. Banco Safra acts in both Wholesale and Retail Banking, but focused on wealthy individuals for the latter. Banco Votorantim also acts in both markets, focusing on Corporate Loans in the Wholesale Banking and on consumer financing and Wealth Management in the Retail Banking. However, it is important to note that Banco do Brasil has 49.99% of the voting capital and 50% of the total capital of Votorantim²⁷. Finally, Citibank closes the list, now acting only as a Wholesale Bank in Brazil.

²⁷ Banco Votorantim, 2017. *Profile and History*. [Online] Available at: https://www.bancovotorantim.com.br/web/site/investidores/en/Conheca_o_banco/perfil_historico.html [Accessed 29 August 2017].

Banks by total assets as of March 31, 2017

Rank	Bank	Control Type	Assets in billions of R\$	% of total
1st	Banco do Brasil S.A.	state-owned	1,441.6	17.3%
2nd	Itaú Unibanco Holding S.A.	privately-owned	1,318.0	15.8%
3rd	Caixa Econômica Federal	state-owned	1,282.1	15.4%
4th	Banco Bradesco S.A.	privately-owned	1,081.2	13.0%
5th	Banco Nacional de Desenvolvimento Econômico e Social (BNDES)	state-owned	866.1	10.4%
6th	Banco Santander Brasil S.A.	privately-owned	715.2	8.6%
7th	Banco BTG Pactual S.A.	privately-owned	147.7	1.8%
8th	Banco Safra S.A.	privately-owned	147.2	1.8%
9th	Banco Votorantim S.A.	privately-owned	104.2	1.2%
10th	Banco Citibank S.A.	privately-owned	79.6	1.0%
n.a.	Others	n.a.	1,159.9	13.9%
Total			8,342.7	100.0%

Exhibit 4 – Rank of Brazilian Banks by Total Assets as of March 31, 2017²⁸

The following exhibits show a comprehensive overview of Itaú Unibanco position in the market. On Exhibit 5, we can see the situation in 2016 of the bank's loan portfolio.

Itaú Unibanco's Loan Portfolio Market Position as of 2016

Market Segment	Position	Market Share	Main Competitors
Credit Cards	1st	37%	BB; Bradesco; Santander; CEF
Payroll Loans	3rd	16%	BB; CEF; Bradesco and Santander
Vehicles financing	4th	10%	Santander; Banco do Brasil; Bradesco
Real Estate Financing and Mortgages (private banks)	1st	42%	Santander; Bradesco
Real Estate Financing and Mortgages (all banks)	2nd	23%	CEF; BB; Santander; Bradesco
Consortia	2nd	8%	Bradesco; BB
Merchant acquirer	2nd	35%	Cielo S.A.; GetNet; Banco Bankpar (American Express)
Insurance	4th	10%	Bradesco; BB
Pension plans	3rd	23%	Bradesco; BB
Premium Bonds	3rd	14%	Bradesco; BB

Exhibit 5 – Itaú Unibanco's Loan Portfolio Market Position in 2016

²⁸ Banco Central do Brasil, 2017. *Baixar Relatórios*. [Online] Available at: <https://www3.bcb.gov.br/informes/baixar> [Accessed 28 August 2017].

On Exhibit 6, we have the position of the Retail Banking segment and the Wholesale Banking, the latter broken into several sub segments. It was not possible to find the market share for every sub segment of the Wholesale Banking division.

Itaú Unibanco's Segments Market Position as of 2016

Market Segment	Position	Market Share	Main Competitors
Retail Banking	3rd	12%	CEF; BB; Bradesco; Santander
Wholesale Banking			
Investment Banking (M&A)	1st	-	Santander; Credit Suisse; Merrill Lynch; Morgan Stanley; JP Morgan; Bradesco; BTG Pactual
Investment Banking (DCM)	2nd	-	-same as above-
Asset Management	3rd	15%	BB; Bradesco
Local Custody	2nd	27%	Bradesco; BB
International Custody	3rd	14%	Citibank; JP Morgan; Bradesco
Corporate Solutions (agent and register provider)	1st	62%	Bradesco; BB
Corporate Solutions (debentures)	1st	47%	Bradesco
Retail Brokerage Services	4th	-	XP Investimentos; Ágora; Rico; BB
Cash Equities	6th	-	UBS; XP Investimentos; Morgan Stanley; Credit Suisse; Merrill Lynch
Futures and Derivatives	6th	-	UBS; BTG Pactual; ICAP; BGC
Research	1st	-	JP Morgan; BTG Pactual; Credit Suisse; Bank of America Merrill Lynch

Exhibit 6 – Itaú Unibanco's Segments Market Position in 2016

1.5.2 FinTechs

There is a lack of banking services in Brazil. Even though 85% of the population live in urban areas, 39.5% of the people over 18 years-old do not have any checking or savings account²⁹. Of those 55 million Brazilians, that together move around R\$ 665 billion per year, 11% are from upper class (6 million), 52% from middle class (29 million) and 37% from lower class (20 million).

This created a very stimulating environment for the Financial Technology Industry in the country. In 2016, Brazil was responsible for US\$161 million of the US\$ 17.4 billion invested in FinTechs over 1,436 deals around the world, ranking the country as the eighth largest market for FinTechs investment³⁰. In the last two years, the number of

²⁹ G1, 2013. *39,5% dos brasileiros não possuem conta em banco, diz pesquisa*. [Online] Available at: <http://g1.globo.com/economia/seu-dinheiro/noticia/2013/05/395-dos-brasileiros-nao-possuem-conta-em-banco-diz-pesquisa.html> [Accessed 29 August 2017].

³⁰ Deloitte LLP, 2017. *Connecting Global FinTech: Interim Hub Review 2017*, London: The Creative Studio.

Brazilian Fintechs tripled, reaching the number of 244 companies across the country³¹. Among those, we can highlight three cases of success.

NuBank

Considered as the 16th most innovative FinTech in the world in the Fintech100 report by KPMG and H2 Ventures³², NuBank started its operations by offering a MasterCard platinum credit card without annuities and with lower interest rates. Its clients can control everything through a mobile application, as the company does not have any physical branches. In its fifth and most recent investment round, it received US\$ 80 million, totaling US\$ 179 million in investments since it was founded³³. The FinTech preaches for a simpler and more transparent experience regarding credit cards, with reduced bureaucracy and paperwork in comparison with traditional banks. It does not require any proof of income and does not send any physical material apart from the card and the simplified version of the contract.

Recently, in late October, the fintech caused quiet the impact in the market when it announced the new service of a payment account³⁴. Although it cannot be in fact considered a savings or deposit account, as the fintech is still waiting for the Brazilian Central Bank approval to act as a bank, money deposited there will give a return tied to government bonds, net of a 1% management fee³⁵. This would mean that, in theory, depositors would have a higher return when in comparison with traditional banks' savings accounts. Following the same value proposition of the credit card, the new service will not charge any maintenance fees nor require credit checks. And, although clients would

³¹ TechCrunch, 2017. *Brazil's fintech boom offers new vertical opportunities for investors*. [Online]
Available at: <https://techcrunch.com/2017/05/13/brazils-fintech-boom-offers-new-vertical-opportunities-for-investors/>
[Accessed 29 August 2017].

³² KPMG; H2 Ventures, 2016. *Fintech100*, s.l.: s.n.

³³ Valor Econômico, 2016. *Fintech Nubank raises \$80m in investment round led by DST Global*. [Online]
Available at: <http://www.valor.com.br/international/news/4798986/fintech-nubank-raises-80m-investment-round-led-dst-global>
[Accessed 29 August 2017].

³⁴ banking technology, 2017. *Nubank reaches out to Brazil's underbanked with digital banking accounts*. [Online]
Available at: <http://www.bankingtech.com/2017/10/nubank-reaches-out-to-brazils-underbanked-with-digital-banking-accounts/>
[Accessed 8 December 2017].

³⁵ Folha de S. Paulo, 2017. *Nubank quer tomar decisão de investimento pelo cliente*. [Online]
Available at: <http://www1.folha.uol.com.br/mercado/2017/10/1929957-nubank-quer-tomar-decisao-de-investimento-pelo-cliente.shtml>
[Accessed 8 December 2017].

not be able to withdraw money as the fintech does not has any physical branches or ATMs, they will be able to make transfers to other bank accounts free of charge.

GuiaBolso

GuiaBolso is a mobile application that securely connects with the client's bank accounts to keep track of all transactions. It works as a personal finance management tool that automatically categorize each expenditure and analyze if they are in line with goals that the user can program. Additionally, the app makes a credit analysis and show the client possible consumer loans from diverse financial institutions, similarly to a marketplace. The company received a total amount of R\$ 90 million in investments after several financing rounds, with the International Finance Corporation as one of the investors³⁶. It was also feature in the Fintech100 report as an "Emerging Star".

Creditas

Creditas is a digital platform focused on secured loans. While Brazilians usually pay an average of 190% in interests per year for unsecured, credit card and consumer loans, the company uses an innovative credit scoring system to achieve one-fourth to one-half of the interest rates from its competitor. This is possible due to a hybrid financing model which involves using the borrower's house or vehicle as a collateral and funding the loans with the capital from investors or through partnerships with more traditional financial institutions. The FinTech already received over US\$ 26.5 million in investments³⁷.

VivaReal

The fintech VivaReal also was highlighted in the Fintech100 report by KPMG and H2 Ventures, in the 46th position. It is a marketplace for buyers, sellers and renters of real estate properties that counts with over 18 million monthly visits and 5 million houses and apartments listed³⁸. By now, it has already received R\$ 170 mi in investments and is the biggest portal for sales, rentals or leasing of properties in the country.

³⁶ Exame, 2016. *Eles ouviram "não" 60 vezes antes de conseguir R\$ 90 milhões*. [Online] Available at: <http://exame.abril.com.br/pme/eles-ouviram-nao-60-vezes-antes-de-conseguir-r-90-milhoes/> [Accessed 29 August 2017].

³⁷ Reuters, 2017. *Brazil's Creditas gets \$19 million amid boom in local fintech financing*. [Online] Available at: <http://www.reuters.com/article/us-brazil-tech-credit-as-idUSKBN1602JW> [Accessed 29 August 2017].

³⁸ VivaReal, 2017. *Sobre nós*. [Online] Available at: <http://www.vivareal.com.br/empresa/> [Accessed 08 December 2017].

1.5.3 Itaú Unibanco's Business Strategy

Itaú Unibanco has the following guidelines as its strategical plan, according to the Consolidated Annual Report:

- Expand operations in Brazil and abroad
- Focus on non-interest income
- Continue to improve efficiency
- Maintain asset quality in the loan portfolio
- Maintain a solid capital base
- Develop a strong relationship with the clients based on client segmentation
- Transform client experience through technology

1.6 Open Issues

As described before, technology is one of the main concerns for Itaú Unibanco. Not only one of its strategical guidelines is transforming client experience through technology, the new CEO stated a clear focus on accelerating the digital innovation process. The mentality of the bank is more than justified, for two main reasons:

- The Brazilian banking system is highly concentrated, with the top five retail players (Itaú Unibanco, Bradesco, Banco do Brasil, CEF and Santander) corresponding to over 70% of the total assets of Brazilian banks. With such oligopolistic structure, being able to leverage on new competitive advantages can be crucial for Itaú to maintain its place as one of the market leaders and continue to increase market share.
- With a growing FinTech environment, traditional banks will face an increasing asymmetrical competition. Goldman Sachs estimates that over 200 hundred fintechs might generate US\$ 24 bi in revenues over the next 10 years in Brazil, in its report entitled "Fintech Brazil's Movement"³⁹. In fact, the industry concentration mentioned above makes the country more susceptible to impacts of such innovations than others. Although this will hardly jeopardize the growth or profitability of the incumbents, the new competitors might put downward pressure on both fees and spread, besides capturing some market share. Therefore, to face this new kind of rivalry, the bank must keep up to date with the latest innovations on the market or, perhaps, bring them itself.

In this scenario, four questions arise:

- Where is the bank successfully applying digital technologies to obtain competitive advantage? Where it has to improve?

³⁹ New York Times, 2017. *Goldman Sachs Sees Big Potential for Fintech in Brazil*. [Online] Available at: <https://www.nytimes.com/2017/05/15/business/dealbook/goldman-sachs-sees-big-potential-for-fintech-in-brazil.html> [Accessed 6 December 2017].

- What are the main areas of interest for Itaú Unibanco to invest in digital innovation?
- How can Itaú Unibanco successfully innovate in those areas? Does the bank already have the available resources, or it must search externally?
- How can the bank leverage its digital transformation process to achieve its other objectives?

2. Teaching Note

2.1 Synopsis

This case study focus on the analysis of how the financial system is changing with the increasing number of financial technologies companies. To do so, we will focus on the banking industry and take the point of view of a large incumbent in a developing country, Brazil. More specifically, we want to know how Itaú Unibanco, Brazil's largest private bank, can adapt to this new reality of intensive use of digital technologies.

The first step is to answer where the bank is already using those technologies as a source of competitive advantage, as well as to identify opportunities of improvement. Therefore, the analysis will be internal, focusing on determining the current state of Itaú Unibanco as a user of technology. The next step will be an external analysis, looking at the major directions that the banking industry is taking due to innovation. The objective is to establish the main areas of interest for Itaú Unibanco to invest in digital innovation, taking into account the environment in which the bank is inserted. The third step is to develop a plan, considering the conclusions of the first 2 analysis, of how the bank can successfully innovate in those areas. It is also important to answer whether Itaú Unibanco has already the resources to do so by itself or if it must search externally. Finally, given the proposed course of action, we can explain how the bank can benefit from the digital transformation process to achieve its other objectives.

2.2 Objectives

The case study has the following objectives:

- Be an opportunity to better comprehend the banking business, including its financial statements, which have major difference when compared to other industries;
- Understand how innovations are reshaping the banking industry, to keep the knowledge of the students updated;
- Use public information to analyze a company and an industry, a very important skill to many financial analysts;
- Depending on the origins of the student, promote the ability of researching about a market in a foreign country with a different level of development;
- Develop recommendations to the company, a crucial responsibility of any management position in a firm;

2.3 Target Audience

The main target audience are the students of the Master of Science in Management Engineering program of Politecnico di Milano. More specifically, the ones following the Finance track can better benefit from the topics addressed; however, the case study might also interest students from other tracks, such as the Digital Business and Market Innovation one.

2.4 Discussion

2.4.1 Where is the bank successfully applying digital technologies to obtain competitive advantage? Where it has to improve?

By the information provided in the case study, we can state that the bank always had a great concern for being updated regarding the latest technologies used in the industry. As an example, the bank was the first to install and use automated teller machines. We can further verify this through the Itaú Unibanco's Annual Report of 2016, by looking at how this mentality translates in the organizational structure:

- In February of 2015, the bank created the Technology and Operations executive area, with the objective of optimizing the structure to support a sustainable growth. The area is responsible for reorganizing operations in a simpler and more efficient way, with the clear objective of improving the client experience.
- The bank Board of Directors has a specific committee, between many others, called "Digital Advisory Board". This committee is responsible for providing the Board of Directors with inputs, promoting the reflection of how evolution of technologies and world trends impact customer experience.

Those measures help ensuring that the bank maintains innovation as a concern on the strategical level. In fact, Itaú Unibanco states that one of the pillars of its business strategy is to "transform client experience through technology". The bank divides the clients' relationship in three levels (experience, processing and infrastructure) and is mindful of technologies that might have a great impact in any of those.

Experience

The experience level relates mainly to new digital channels of distribution that the bank can use, such as SMSs, mobile applications and internet banking. Since the creation of the first digital branches in 2013, the bank is trying to rebuild itself as more and more digital. This kind of branches allows customers to contact their managers from 7:00 to midnight, from Monday to Friday, offering online and after-hour services through the previously mentioned digital channels plus telephone. The bank kept increasing the number of digital branches ever since, and went from 94 in 2015 to 135 by the end of 2016.

In addition, in 2016 it developed the Itaú Abreconta mobile application, which offers clients the possibility of opening new bank accounts through their mobile phones only. The new app enabled the opening of 60,000 new accounts in 4 months of operations in the year it was launched.

As a result of these kind of investments in digital channels, they now are responsible for 73% of the transactions, with mobile phones only accounting for over half of those. The change in the clients preferred channels can be seen below in Exhibit 7.

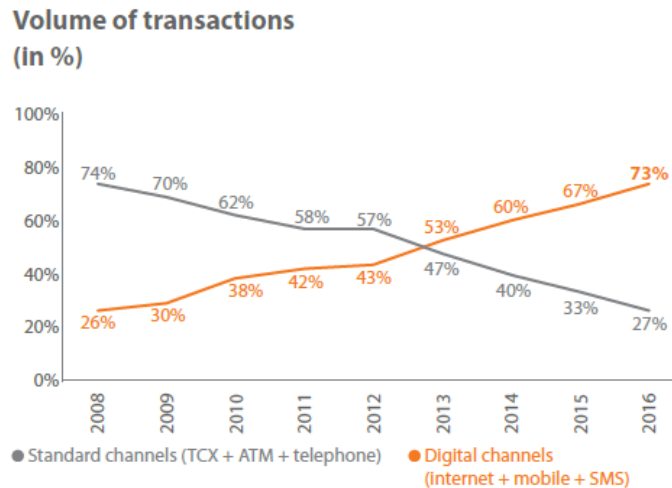


Exhibit 7 – Volume of transaction using each kind of distribution channel for Itaú Unibanco

Diving deeper on the experience level, we can also identify four major sub segments of Retail Banking in which the bank offers services with the latest trends in technology:

- In the **credit card** markets, the bank has two products mentioned in the description of the case that deserve attention: the **NCARD** and the **Credicard Zero**. Both are totally digital, since from the request of the card to the management of your account. The latter, however, has an additional feature that follows the newest trend in the Brazilian credit card market: zero annuity fees.
- For the **vehicle financing** subsegment, the bank invested in digitalization both for the originator and for the clients. For the former, Itaú Unibanco offers a **digital platform** in which they can originate, service and formalize the financing. As for the latter, the bank invested in **Icarros**, a website in which users can search for new and used cars, and also make simulation of financing options. The portal is responsible for initiating 15% of the vehicle financing operations.
- In the **merchant acquirer market**, the bank is trying to digital technologies in several ways through its brand Rede. The first is **Smart Rede**, the new generation of terminal with an embedded app store that allows the merchants to download tools to help managing their business; the second is **Control Rede**, a digital platform in which the business owner can check the status of his/ her receivables and improve the financial control; the third is **Rede Pay**, a digital wallet which offers the merchants access to the network of clients using it; the last is “**Preço Único**”, a terminal in which the merchant pays only a fixed fee that comprises both the equipment rental and the discount rate, opposed to the typical arrangement of a fixed rent plus a discount percentage on sales.
- **High-income individuals** who have an account on the label Itaú Personalité are offered a special digital bank platform, in which relationship managers service clients through SMS, telephone, email or videoconferences, besides internet banking. It is a similar service to the digital branches, however with additional features.

Processing

The processing level concerns big data and artificial intelligence. Itaú Unibanco has been investing in the management and analysis of large volumes of data for some years. It has been improving its data processing, growing its Data Lake and finished constructing in 2015 its new data center. It is expected that the investment will support the growth of the bank until 2050, ensuring the availability and performance of operations.

Infrastructure

This level of relationship comprises the use of new platforms, such as blockchain. The bank shows conviction that the technology underlying digital and encrypted currencies will be able to improve the banking industry efficiency and the provide a better experience to clients. As a consequence, the it has been very active in the discussion of the blockchain technology, being the first company in Latin America to enter in a partnership with R3, an international startup. R3 leads a consortium of over 70 financial institutions with the objective of creating an open-source distributed ledger platform called Corda, especially built to attend the financial world needs⁴⁰. Although not being a blockchain itself, Corda is heavily based on the technology.

Other investments related to innovation

One major investment the bank made which deserves special attention is Cubo, a non-profit organization with the aim to promote a digital entrepreneurship ecosystem in the country. It offers co-working space for digital startups, support mentors who are specialized in diverse topics and a platform of events aimed at entrepreneurs, which organizes, for example, workshops and speeches.

By the end of 2016, Cubo had 54 resident startups that together have received around R\$ 104 mi and generate over 650 jobs. The place has a daily flow of more than 500 people and received over 30,000 in the 780 events it organized since inception. The project earned the bank 2 awards: the IF Designs Award in the International Forum Design GmbH in January 2016, and the Efinance award, by Financial Executives in May 2016.

There are two major benefits derived from it. First, it allows the bank to have direct access to young talents and entrepreneurs, sources of technological knowledge. By housing startups, Itaú Unibanco is able to stimulate knowledge exchange between employees and innovators, as well as to enable new business opportunities which may help the bank improve its own products and services. The second major benefit is that Cubo positively impacts the bank's culture, reinforcing the ideals of innovation and evolution to a digital bank. In a way, the 4,000 employees from Itaú Unibanco that already participated in some activity there had contact with different and new business models, working formats and technological solutions.

⁴⁰ Available at: <https://www.r3.com/> [Accessed 7 December 2017].

Opportunities for improvement

At first glance, it doesn't really seem to have much room for improvement regarding digital technologies as the bank heavily invests in innovation. However, one cannot forget that the main expected result of the use of such technologies for the bank is a better client experience. Itaú Unibanco states in its Annual Report that customer satisfaction and financial results are "inseparable goals", and that by including their vision in the strategy the bank is prepared for constant change.

But as use of technology and digital media becomes more and more intensive, clients are becoming better informed and more aware of their rights and responsibilities, which increases the importance of problem solving, transparency, reliability, convenience and agility in the services provided. As new technologies are implemented, user experience can improve, but so does the clients' expectations increase. Therefore, to obtain real gains in the perceived quality of the service provided, the experience must improve at a faster rate. This might explain why the results of the annual customer satisfaction surveys organized by the bank showed deterioration on the past years, as we can see in Exhibit 8, even though the adoption of new digital solutions never ceased.

Customer satisfaction survey	2016	2015	2014
Results	7.96	8.02	8.11

Exhibit 8 – Itaú Unibanco's Annual Customer Satisfaction Survey Results

On the other hand, the bank seems to be handling complaints from customers in a good manner. The bank has the External Ombudsman service, which acts when the customer is not satisfied with the solution offered by regular channels such as Service Centers, Customers Services and Internet. Considering both channels of face-to-face and remote service, the bank registered 160 million contacts in 2016. From those, 94.2% were information related, while 5.54% were due to dissatisfaction. Of all complaints, 99.7% were either solved or explained in the customers service area of the bank while remaining 0.3% went to other external consumer services bodies or the justice system. In addition, 98.5% of the customers who used the External Ombudsman service did not took further actions involving external bodies.

Also, analyzing the data provided by the website Complain Here ("Reclame Aqui"), we can compare Itaú Unibanco's performance in the matter of problem solving with its main competitors, as in Exhibit 9 below. The website is a platform where dissatisfied customers can make complaints and requests directly in the page of the company which provided the service or product acquired, and is mentioned in the annual report as a source for benchmarking.

Performance of the 5 major retail banks in the website Complain Here in 2016

	Itaú ⁴¹	Bradesco ⁴²	Santander ⁴³	BB ⁴⁴	CEF ⁴⁵
Total number of complaints	25014	19345	20232	22445	17204
Number of complaints answered	24965	19345	20106	22392	0
as % of total complaints	99.8%	100.0%	99.4%	99.8%	0.0%
Percentage of clients who would still do business with the bank	67.5%	63.4%	52.4%	57.0%	23.1%
Percentage of complaints solved	78.2%	77.2%	71.9%	67.5%	31.7%
Average score (0 to 10)	6.07	5.92	5.06	4.91	1.66

Exhibit 9 – Performance of the 5 major retail banks in the website Complain Here in 2016

As we can see, Itaú Unibanco has the highest number of total complaints, but answered almost all of them (only Bradesco managed to do so) and had the highest percentage of clients who would still do business with it, percentage of complaints solved and average score. This reveals that the bank is performing better than its competitors in terms of problem solving. However, this data shows how the Brazilian banking industry does not provide a good job in terms of client satisfaction, considering that other companies in other industries achieve much higher percentages and average scores.

This shows that the bank could make better use of digital technologies to improve client experience and customer satisfaction. Improving the services itself of the bank's internal processes could lead to a reduction on the total number of complaints and in a better contentment after the problem solving. If Itaú Unibanco further increased the difference in the quality of the service provided in comparison with its competitors, this could become an invaluable competitive advantage in an industry in which satisfaction may be a factor of differentiation.

⁴¹ Reclame Aqui, 2017. *Banco Itaú.* [Online] Available at: <https://www.reclameaqui.com.br/empresa/itau/> [Accessed 7 December 2017].

⁴² Reclame Aqui, 2017. *Banco Bradesco.* [Online] Available at: <https://www.reclameaqui.com.br/empresa/bradesco/> [Accessed 7 December 2017].

⁴³ Reclame Aqui, 2017. *Banco Santander.* [Online] Available at: <https://www.reclameaqui.com.br/empresa/santander/> [Accessed 7 December 2017].

⁴⁴ Reclame Aqui, 2017. *Banco do Brasil.* [Online] Available at: <https://www.reclameaqui.com.br/empresa/banco-do-brasil/> [Accessed 7 December 2017].

⁴⁵ Reclame Aqui, 2017. *Caixa Econômica Federal.* [Online] Available at: <https://www.reclameaqui.com.br/empresa/caixa-economica-federal/> [Accessed 7 December 2017].

2.4.2 What are the main areas of interest for Itaú Unibanco to invest in digital innovation?

To better determine which areas the bank should consider a priority for investments in digital technologies, one must look at both the sources of revenues and expenses for the firm. As any other bank, revenues come mainly in two forms, as interest on loans and non-interest income, such as fees charged on services provided. As for expenses, besides the common operating ones related to the maintenance of the business as in any industry, banks also have to pay interest on their sources of funds, such as deposits, repo agreements, interbank market debt and institutional market debt.

For each relevant source of revenue or expense, we must consider, when relevant, both the current competitive position of the bank between the major 4 competitors and if there are any prominent fintech with a business model that might cause any impact in it.

Loans

The analysis will start with the loan portfolio of the bank, as we can observe in Exhibit 10. The main categories as loans to individuals (further divided between credit cards, personal loans, payroll loans, vehicle financing and mortgage loans), to corporations, to small and medium business and foreign loans.

Itaú Unibanco's loan and leases operations, by type, in millions of R\$, for the year ended December 31

	2016		2015		2014	
	Loan	Allowance	Loan	Allowance	Loan	Allowance
Individual	183,147	14,259	187,220	14,717	185,953	13,385
Credit card	59,022	3,693	58,542	4,141	59,321	3,740
Personal loans	25,813	7,756	28,396	8,330	27,953	7,024
Payroll loans	44,636	2,108	45,434	1,319	40,525	1,107
Vehicles	15,434	644	20,058	874	29,047	1,469
Mortgage loans	38,242	58	34,790	53	29,107	45
Corporate	121,754	5,862	152,527	6,459	147,002	3,114
Small and Medium Business	58,935	4,743	66,038	4,809	68,838	5,158
Foreign Loans Latin America	126,530	2,108	68,463	859	50,638	735
Total Loan operations and lease operations portfolio	490,366	26,972	474,248	26,844	452,431	22,392

Exhibit 10 – Itaú Unibanco's loan and leases portfolio for 2014, 2015 and 2016

It is also important to verify the growth of each class of loans between years and the percentage of each category designated as allowance, to have a proxy of the credit quality change between years. This information is provided below on Exhibit 11.

Itaú Unibanco's total loan variation and allowance as % of category

	Variation		Allowance as % of category		
	2016-2015	2015-2014	2016	2015	2014
Individual	-2.2%	0.7%	7.8%	7.9%	7.2%
Credit card	0.8%	-1.3%	6.3%	7.1%	6.3%
Personal loans	-9.1%	1.6%	30.0%	29.3%	25.1%
Payroll loans	-1.8%	12.1%	4.7%	2.9%	2.7%
Vehicles	-23.1%	-30.9%	4.2%	4.4%	5.1%
Mortgage loans	9.9%	19.5%	0.2%	0.2%	0.2%
Corporate	-20.2%	3.8%	4.8%	4.2%	2.1%
Small and Medium Business	-10.8%	-4.1%	8.0%	7.3%	7.5%
Foreign Loans Latin America	84.8%	35.2%	1.7%	1.3%	1.5%
Total Loan operations and lease operations portfolio	3.4%	4.8%	5.5%	5.7%	4.9%

Exhibit 11 – Variation of the loan portfolio between 2014, 2015 and 2016, plus percentage of each category classified as allowance on each year

Itaú Unibanco states that the growth of the mortgage, payroll and foreign loans as opposed as the decrease in vehicle financing, corporate and small and medium business loans were a result of bank efforts, since 2011, to reduce the credit risk of the portfolio. In the meantime, the credit card category remained relatively constant and the personal loans suffered a smaller reduction.

The credit card market will suffer major changes in the upcoming years, as the presence of the fintech Nubank is putting downward pressure on annuity fees and interest rates charged. Making part of 32.2% of the individual loans category and 12.0% of the overall loan portfolios, credit cards are definitely an area of innovation the bank should focus. Even though Itaú Unibanco is the market leader in terms of volume of transactions, the high compounded annual growth rate of the market of 10% in the past four years leaves much space for competition to gain market share by attending new demand. The bank should keep up with the latest market trends in order to maintain its leadership.

As for personal loans, also the presence of the fintechs Guia Bolso and Creditas will probably have a major impact. While the former facilitates the search for loans with better terms, the latter puts downward pressure on the interest rates charged as it connects lenders and borrowers through collateralized loans. Also, it is worth mentioning that although the category suffered a decrease of 9.1% between 2015 and 2016, the allowance percentage increased slightly again, suggesting that the reduction on this type of loan was not accompanied by an improvement in the credit quality. Because of those factors, the bank must have a special interest in that market, to assure the origination of new loans with higher degree of safety.

Both payroll loans and mortgages seem to be subsegments of interest for the bank, as apparently they can originate loans with a better credit quality. Although the two categories had the smallest percentage of allowances between individual loans until 2015, this was no longer true for payroll ones, which suffered a significant increase. However, it is unclear whether this was due to market conditions and no fintechs that could directly impact the segment were found. Therefore, even though it could be

desirable to originate more payroll loans with better credit quality and the bank has room from improvement in the market as it is the third in terms of market share, it does not seem to be a way to leverage on digital technologies to do so.

However, the mortgage subsegment remained attractive with the same, lowest percentage of allowance. Itaú Unibanco is in a comfortable position as the market leader between private banks and second in market share considering all of them, after the Caixa Econômica Federal (which due to its use as a direct channel of the governments to act on the real estate market, cannot be considered a “fair” competitor), but the growth on the loan category was just in line the market, as stated on the annual report. Even though one cannot affirm that it would be better to achieve a higher growth rate due to the conservative mindset of the bank, the fact that fintechs reached the real estate market with VivaReal shows a possibility of leveraging on digital technologies.

The last category from the individual loan segment is vehicle finance, which could be a point for improvement in the business of the bank. The subsegment suffered an accumulated reduction of 46.9% over the two years and had a small reduction on the allowance. It is the worst performance in competitive terms, as the bank is the 4th in market share. Although is arguable if Itaú Unibanco should make better efforts in the category as it is the smallest share of the total loans, the fact that vehicle finance was one the highlights in the previous question raises some questions, as the bank already made some investments in digital technologies for it.

Finally, corporate, small and medium business and foreign loans to Latin America are not particularly attractive from the point of view of investing in innovations, at least for this case study. The high capital needs for the first two categories and the fact that foreign countries are subject to another entrepreneurial environment diminishes a lot the possible impacts caused by Brazilian fintechs. It is worth mentioning that technologies such as blockchain could benefit a lot the transactions between banks and large corporate clients for example, showing that digital innovations can affect at least one of those categories. Still, they do not seem to be good candidates for the bank to focus on by this point of view.

Other interest income

The bank also has interest income on investments other than loan and leases, as it can be observed in Exhibit 12. However, none of the other sources of interest income are possible to be amplified through the use of digital technologies, as they come mainly from deposits in the Central Bank and other financial institutions and financial assets. Yet, it is worth mentioning that almost half of the interest income come from loan and leases operations, which can be heavily affected by the use of such technologies as discussed previously.

Interest and similar income, in millions of R\$, for the year ended December 31

	2016	2015	2014	Variation	
				2016-2015	2015-2014
Interest on Central Bank Compulsory deposits	6,920	5,748	5,904	20.4%	-2.6%
Interest on interbank deposits	677	1,628	1,286	-58.4%	26.6%
Interest on securities purchased under agreements to resell	34,162	27,572	17,929	23.9%	53.8%
Interest on financial assets held for trading	23,669	19,826	15,128	19.4%	31.1%
Interest on available-for-sale financial assets	11,160	8,979	7,272	24.3%	23.5%
Interest on held-to-maturity financial assets	3,788	3,758	2,347	0.8%	60.1%
Interest on loans and leases operations	80,118	79,392	69,248	0.9%	14.6%
Other financial assets	1,001	886	1,001	13.0%	-11.5%
Total interest and similar income	161,495	147,789	120,115	9.3%	23.0%

Exhibit 12 – Itaú Unibanco's interest and similar income in 2014, 2015 and 2016, plus the variation between the years

Non-interest income

On the Exhibit 13 below, we have information about non-interest income of the bank in the past three years.

Non-interest income, in millions of R\$, for the year ended December 31

	2016	2015	2014	Variation	
				2016-2015	2015-2014
Banking Service Fees	31,918	29,452	26,342	8.4%	11.8%
Current account services	9,528	8,815	7,725	8.1%	14.1%
Asset management fees	3,514	2,932	2,660	19.8%	10.2%
Collection commissions	1,315	1,250	1,279	5.2%	-2.3%
Fees from credit card services	13,330	12,722	11,507	4.8%	10.6%
Fees for guarantees issued and credit lines	1,773	1,609	1,407	10.2%	14.4%
Brokerage commission	295	248	262	19.0%	-5.3%
Other	2,163	1,876	1,502	15.3%	24.9%
Income related to insurance, private pension plans and capitalization operations before claim and selling expenses	5,880	6,672	6,888	-11.9%	-3.1%
Other income	1,382	1,279	2,154	8.1%	-40.6%
Total non-interest income	39,180	37,403	35,384	4.8%	5.7%

Exhibit 13 – Itaú Unibanco's non-interest income in 2014, 2015 and 2016, plus the variation between the years

As discussed previously, the new business model introduced by Nubank with no maintenance fees for accounts (and also no fees to transfer money) nor annuities for credit cards probably are going to force traditional banks to decrease theirs. Therefore, the bank must address the impacts of such innovations on the fees from current account services and credit card services and check if investments in technologies can enable a reduction of them to do not lose competitiveness.

Asset management fees can also be affected by the rise of independent investment firms such as XP Investimentos. However, as the fees in that market are usually very similar from one company to another, the main factor is the total assets under management and the performance obtained, and not the model of the service itself.

Interest expense

Information about interest expenses for the bank can be observed on Exhibit 14 below.

Interest and similar expenses, in millions of R\$, for the year ended December 31					
	2016	2015	2014	Variation	
				2016- 2015	2015- 2014
Interest on deposits	(14,701)	(13,587)	(12,064)	8.2%	12.6%
Interest on securities sold under repurchase agreements	(45,932)	(32,879)	(26,771)	39.7%	22.8%
Interbank market debt	(8,348)	(7,970)	(14,404)	4.7%	-44.7%
Institutional market debt	(8,248)	(8,030)	(10,695)	2.7%	-24.9%
Financial expense from technical reserves for insurance and private pension plans	(17,790)	(12,556)	(8,987)	41.7%	39.7%
Other	(107)	(42)	(56)	154.8%	-25.0%
Total interest and similar expense	(95,126)	(75,064)	(72,977)	26.7%	2.9%

Exhibit 14 – Itaú Unibanco's interest expenses in 2014, 2015 and 2016, plus the variation between the years

From all sources of funds, the only one that could be materially affected by recent innovations are the interest on deposits. Again due to Nubank business model, that rewards customers with higher returns tied to government bonds, traditional banks may have to increase the rate paid to depositors. Even though interest on deposits represented only 15.5% of total interest expenses in 2016, the bank should not ignore such trend.

Non-interest expense

The operational expenses of Itaú Unibanco can be seen below, on Exhibit 15.

General and administrative expenses, in millions of R\$, for the year ended December 31

	2016	2015	2014	Variation	
				2016-2015	2015-2014
Personnel expenses	(22,360)	(19,573)	(17,071)	14.2%	14.7%
Administrative expenses	(15,959)	(15,112)	(14,325)	5.6%	5.5%
Depreciation	(1,702)	(1,688)	(1,641)	0.8%	2.9%
Amortization	(1,292)	(910)	(827)	42.0%	10.0%
Insurance acquisition expenses	(721)	(1,138)	(1,214)	-36.6%	-6.3%
Other expenses	(8,870)	(9,205)	(7,472)	-3.6%	23.2%
Total general and administrative expenses	(50,904)	(46,626)	(42,550)	9.2%	9.6%

Exhibit 15 – Itaú Unibanco's non-interest expenses in 2014, 2015 and 2016, plus the variation between the years

Theoretically, migrating from physical distribution channels to digital ones may reduce operational expenses, although it is difficult to affirm to which extent. The reduction on the number of physical branches could be a major driver of cost-cutting for example, which is a strong trend followed by digital banks that usually have, in fact, no physical branches at all.

Also, automatization and improvements in efficiency could reduce the number of new employees needed to expand operations. As it could be expected from a bank, the majority of the total general and administrative expenses (almost 44% in 2016) are directed to personnel. Therefore, investments in technologies could provide a valuable mean of cost reduction for Itaú Unibanco.

2.4.3 How can Itaú Unibanco successfully innovate in those areas? Does the bank already have the available resources, or it must search externally?

It were identified the following revenue generating areas that deserve focus in innovation, with the correspondent expected changes:

- Credit cards – increase in the use of digital cards and reduction on interest rates and fees charged
- Personal Loans – reduction on the interest rates and increase in credit quality
- Vehicle financing – better use of the current applied technologies
- Mortgage loans – increase in market share
- Current account services – reduction on fees charged

As for cost generating areas, there are:

- Interest on deposits – increase on the return given
- Personnel and administrative expenses – cost cutting

A valid point that must be mentioned is the fact that the bank is prohibited from acquiring any financial institutions in the next couple of years due to the deal regarding Citibank's retail operations in Brazil. Therefore, inorganic growth is not a possibility.

It is appropriate to start with decision that have no direct financial impact on the bank, as they are less complex. A reduction of fees and interest will decrease the bank revenues, while a higher return on the deposits will increase the cost of funding; however, cost cutting could reduce the operating expenses and macroeconomic conditions could counterbalance the change of an increase of return on deposits if they decrease the cost of other sources of funds. As we cannot look at each factor separately, such analysis will be done later.

Non-financial decisions comprise mainly:

- The increase in the use of digital credit cards
- Ways to increase credit quality in personal loans
- Do better use of digital technologies applied in vehicle financing
- Ways to increase the market share on mortgage loans

Increase in the use of digital credit cards

The bank has already made advancements in that area with the creation of both the NCARD and Credicard Zero. Both cards have the same digital qualities as of its rivals: the request process is digital and very fast, requiring credit approval only from algorithms; there is no need to wait for the physical copy to arrive to shop online; and they can be managed digitally, without the need of ever interacting face-to-face with an employee of the bank. Therefore, Itaú Unibanco already has all the internal capabilities and technologies to expand the operations of this type of credit card and there is no need to search them externally.

Increase in the credit quality in personal loans

A possible idea to increase the credit quality in personal loans is to follow one of the value propositions of the fintech Guia Bolso. If Itaú Unibanco had, for example, an app which helped its borrowers to better control their financial lives, there could be a reduction on the levels of default. Such idea is very much feasible as the bank already has several mobile applications, some already with the feature described; however, the bank could offer a more specific tool for its clients who make personal loans. A project like this can be easily completed with the competences the bank already has, as it is only a matter of programming and communicating with the client.

Although it is hard to estimate to which extent this could reduce credit risk, the fact that the use of smartphones is more and more diffused shows that the impact may be relevant. Considering the low investments necessary to develop such application, this could be a viable option to improve the loan portfolio.

Better use of digital technologies in the vehicle financing segment

The bank has two main digital tools that it uses in the vehicle financing segment, the digital platform for loan originators and its web portal Icarros. The latter offers a very good opportunity to improve the segment size without a loss in credit quality as it is a direct channel with potential borrowers.

We can check the portal popularity by searching in the correspondent page at Alexa's website⁴⁶. By crossing the data with similar websites with high overlapping types of visitors⁴⁷ we can identify that Icarros is the second largest website for sale of automobiles in Brazil, with an Alexa rank of 12,232 and a rank in Brazil of 372. The first place is held by Web Motors, with an Alexa rank of 8,233 and a rank in Brazil of 207⁴⁸; the third place is occupied by Carros na Web, with an Alexa rank of 30,883 and a rank in Brazil of 913⁴⁹.

The data above suggests that there is still room for growth in the market share of Icarros. If the portal is able to attract more visitors, more people will use the tool of financing simulation, which could generate a bigger pool of possible borrowers. The website could attract more visits by, for example, lowering the fees charged to announce a car. This could increase the number of total announcements, which would attract also more visits from people willing to buy due to network effects. Any decision of this type only requires resources that the bank already has internally, as it is the owner of Icarros, and there is no need for external help.

Increase in the market share on mortgage loans

To have more access to potential borrowers, Itaú Unibanco could extrapolate the idea of using a financing simulator, as in Icarros, to a website of real estate properties sales/ rentals. The VivaReal website could be perfect for this, being the biggest portal of its kind in the country. A partnership like this would be much simpler than internally constructing a new one from zero due to network effects. Therefore, for this investment in specific, the bank would have to search resources externally.

Financial interactions between changes on interest rates and fees

We can now start looking at how changes in interest rates and fees could impact the financial performance of the bank. To do so, we can run some sensitivity analysis on Itaú Unibanco's performance for 2016. Although one could argue that it would be more appropriate to do such analysis on projections for future performance, we do not have enough information for guaranteeing a minimal level of reasonable basis. We would need to assess the country macroeconomic projections, the projections for each loan market,

⁴⁶ Alexa, 2017. *icarros.com.br Traffic Statistics.* [Online] Available at: <https://www.alexa.com/siteinfo/icarros.com.br> [Accessed 9 December 2017].

⁴⁷ Alexa, 2017. *Find Similar Sites: icarros.com.br.* [Online] Available at: <https://www.alexa.com/find-similar-sites#site=icarros.com.br> [Accessed 9 December 2017].

⁴⁸ Alexa, 2017. *webmotors.com.br Traffic Statistics.* [Online] Available at: <https://www.alexa.com/siteinfo/webmotors.com.br> [Accessed 9 December 2017].

⁴⁹ Alexa, 2017. *carrosnaweb.com.br Traffic Statistics.* [Online] Available at: <https://www.alexa.com/siteinfo/carrosnaweb.com.br#?sites=carrosnaweb.com.br> [Accessed 9 December 2017].

the performance of the other competitors, etc. Due to the complexity of this task, which is outside the scope of this case study, we are modifying some variables of 2016 only. This should be good enough for the point of the analysis, which is only to illustrate, and not to predict with accuracy, the potential impacts of changes in interest rates and fees for the bank.

However, there is an important and very obvious macroeconomic factor that would be inappropriate to set aside, which is the SELIC rate (“Sistema Especial de Liquidação e Custódia”, or Special Clearance and Escrow System in a free translation). The SELIC rate is the Brazilian Central Bank benchmark rate and varied drastically in the past months. While the cumulative SELIC rate was of 14.0% in 2016, the Brazilian Central Bank started to review downward its target for the rate by the end of the same year; as of the latest meeting of the committee responsible to determine the SELIC rate target on December 6, the value was at 7.00%⁵⁰. This means that the cost of funds for the bank will be lower in the future, should this trend continue.

We can start then our analysis by looking how changes in interest rates on funds used by the bank interact with each other. While we expect an increase in the deposits return, the bank should also pay less interest for securities sold under repurchase agreements, interbank market debt and institutional market debt. The amount paid in interest for those sources of funds can be seen below on Exhibit 16. The percentage were calculated on the average value of each source between 2015 and 2016.

Average amount and interest expenses of the main sources of funds, in millions of R\$, for the year ended December 31

	Value in Bal. Sh.		Average	Interest paid	Interest as %
	2016	2015			
Deposits	329,414	292,610	311,012	(14,701)	4.73%
Securities sold under repurchase agreement	349,164	336,643	342,904	(45,932)	13.40%
Interbank market debt	135,483	156,886	146,185	(8,348)	5.71%
Institutional market debt	96,239	93,918	95,079	(8,248)	8.67%
Total average (excluding deposits)	580,886	587,447	584,167	(62,528)	10.70%

Exhibit 16 – Total amount and interest expenses on the main sources of funds for the year 2016

However, any change in the nominal interest rates of the economy will also affect the interest income of the bank. Theoretically, the income from interest on central bank compulsory deposits, interbank deposits, securities purchased under agreements to resell, financial assets held for trading, available-for-sale financial assets and held-to-maturity financial assets should all go down as well. The interest on loans and lease operations, although being more discretionary, should also decrease to follow the economic trend. In 2016, we had the following interest income that could be affected by a movement on the interest rate, showed on Exhibit 17.

⁵⁰ Banco Central do Brasil, 2017. *Interest rates*. [Online] Available at: <https://www.bcb.gov.br/Pec/Copom/Ingl/taxaSelic-i.asp> [Accessed 9 December 2017].

Average interest-bearing assets and interest received, in millions of R\$, for the year ended December 31

	Value in Bal. Sh.		Average	Interest received	Interest as %
	2016	2015			
Central Bank compulsory deposits	85,700	66,556	76,128	6,920	9.09%
Interbank deposits	22,692	30,525	26,609	677	2.54%
Securities purchased under agreements to resell	265,051	254,404	259,728	34,162	13.15%
Financial assets held for trading	204,648	164,311	184,480	23,669	12.83%
Available-for-sale financial assets	88,277	86,045	87,161	11,160	12.80%
Held-to-maturity financial assets	40,495	42,185	41,340	3,788	9.16%
Total average (excluding loans and leases)	706,863	644,026	675,445	80,376	11.90%
Interest on loans and leases operations	490,366	474,248	482,307	80,118	16.61%
Total average (including loans and leases)	1,197,229	1,118,274	1,157,752	160,494	13.86%

Exhibit 17 – Total amount on interest bearing assets and related interest income for the year 2016

We can then make the following sensitivity analysis:

- Assuming an equal decrease in basis points on average rate of interest for expenses on sources of funds other than deposits and on average interest for income on assets other than loans and leases operations, which will vary on each line
- Assuming that the decrease in basis points of the interest rate earned on loans will be a percentage of the absolute reduction on the average interest rates mentioned above on each column
- We can calculate what would be the “new” interest rate on deposits that the bank could give to its clients which would not change the operating margin

The results are observable on Exhibit 18 below.

New possible interest rates on deposits

% of decrease transferred to interest charged on loans

	10%	25%	50%	75%	100%
5	4.704%	4.693%	4.673%	4.654%	4.635%
10	4.682%	4.659%	4.620%	4.581%	4.542%
15	4.660%	4.625%	4.566%	4.508%	4.450%
20	4.637%	4.591%	4.513%	4.436%	4.358%
25	4.615%	4.557%	4.460%	4.363%	4.266%
30	4.592%	4.522%	4.406%	4.290%	4.174%
35	4.570%	4.488%	4.353%	4.217%	4.081%
40	4.547%	4.454%	4.299%	4.144%	3.989%
45	4.525%	4.420%	4.246%	4.071%	3.897%
50	4.503%	4.386%	4.192%	3.999%	3.805%
55	4.480%	4.352%	4.139%	3.926%	3.712%
60	4.458%	4.318%	4.086%	3.853%	3.620%
65	4.435%	4.284%	4.032%	3.780%	3.528%
70	4.413%	4.250%	3.979%	3.707%	3.436%
75	4.390%	4.216%	3.925%	3.634%	3.344%
80	4.368%	4.182%	3.872%	3.562%	3.251%
85	4.346%	4.148%	3.818%	3.489%	3.159%
90	4.323%	4.114%	3.765%	3.416%	3.067%
95	4.301%	4.080%	3.711%	3.343%	2.975%
100	4.278%	4.046%	3.658%	3.270%	2.883%

Exhibit 18 – Sensitivity analysis concerning new possible rates on deposits due to changes in interest rates

It does not seem that the bank can offer higher rates for depositors without sacrificing profitability, even when considering that the falling nominal interest rates makes the same “old” return more valuable. However, we are not considering the fact that lower interest rates would stimulate borrowing, increasing the size of the loan portfolio. Therefore, it remains unclear the relationship between the new SELIC rate trend and the possibility of giving higher returns for depositors.

However, to better understand the impact of possible changes on the interest paid on deposits and the interest rates charged on credit cards and personal loans, we could assume all other interest rates constant and make the following analysis:

- Assuming a decrease in basis points on the average interest rate earned on deposits, which will vary on each line. Unfortunately, we do not have information regarding the proportion of interest earned on specifically credit cards and personal loans, so we will have to make variations on the interest on the whole loan portfolio
- Assuming an increase in basis points on the return given for depositors, which will vary on each column
- We can calculate the impact on the operating margin

The results of the analysis proposed above can be seen on Exhibit 19 below.

Impact on operating margin, in millions of R\$

Increase on interest given to depositors in basis points

	5	20	35	50	65	80	95
5	(397)	(863)	(1,330)	(1,796)	(2,263)	(2,729)	(3,196)
10	(638)	(1,104)	(1,571)	(2,037)	(2,504)	(2,970)	(3,437)
15	(879)	(1,345)	(1,812)	(2,279)	(2,745)	(3,212)	(3,678)
20	(1,120)	(1,587)	(2,053)	(2,520)	(2,986)	(3,453)	(3,919)
25	(1,361)	(1,828)	(2,294)	(2,761)	(3,227)	(3,694)	(4,160)
30	(1,602)	(2,069)	(2,535)	(3,002)	(3,468)	(3,935)	(4,402)
35	(1,844)	(2,310)	(2,777)	(3,243)	(3,710)	(4,176)	(4,643)
40	(2,085)	(2,551)	(3,018)	(3,484)	(3,951)	(4,417)	(4,884)
45	(2,326)	(2,792)	(3,259)	(3,725)	(4,192)	(4,658)	(5,125)
50	(2,567)	(3,034)	(3,500)	(3,967)	(4,433)	(4,900)	(5,366)
55	(2,808)	(3,275)	(3,741)	(4,208)	(4,674)	(5,141)	(5,607)
60	(3,049)	(3,516)	(3,982)	(4,449)	(4,915)	(5,382)	(5,848)
65	(3,291)	(3,757)	(4,224)	(4,690)	(5,157)	(5,623)	(6,090)
70	(3,532)	(3,998)	(4,465)	(4,931)	(5,398)	(5,864)	(6,331)
75	(3,773)	(4,239)	(4,706)	(5,172)	(5,639)	(6,105)	(6,572)
80	(4,014)	(4,480)	(4,947)	(5,414)	(5,880)	(6,347)	(6,813)
85	(4,255)	(4,722)	(5,188)	(5,655)	(6,121)	(6,588)	(7,054)
90	(4,496)	(4,963)	(5,429)	(5,896)	(6,362)	(6,829)	(7,295)
95	(4,737)	(5,204)	(5,670)	(6,137)	(6,603)	(7,070)	(7,537)
100	(4,979)	(5,445)	(5,912)	(6,378)	(6,845)	(7,311)	(7,778)

Exhibit 19 – Sensitivity analysis on the impact in the operating margin by varying the interest rates on loans and on deposits

Considering the huge impacts on the operating margin, it is a very sensitive decision. If it is determined that the new competition generated by the fintechs mentioned could decrease the operating margin of Itaú Unibanco by billions of Reais, maybe the reduction on interest rates charged on loans and the increase in the return on deposits could be worth it. However, this scenario seems quite unlikely in the short term.

Lastly, it is worth checking if a reduction in the fees charged for current account services and credit cards could be counter balanced by a reduction on the operating costs of the bank. To do so, consider the following analysis:

- Assuming a percentage decrease on the credit card fees, which will vary on the lines
- Assuming a percentage decrease on the current account services fees, which will vary on the columns
- Calculate the percentage reduction necessary on personnel and administrative expenses to achieve the same income before income tax and social distributions

The results of the analysis can be seen below, on Exhibit 20.

Percentage decrease on personnel and administrative expenses necessary

Percentage decrease on current account services fees

	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
5%	3.0%	4.2%	5.5%	6.7%	8.0%	9.2%	10.4%	11.7%	12.9%	14.2%
10%	4.7%	6.0%	7.2%	8.5%	9.7%	10.9%	12.2%	13.4%	14.7%	15.9%
15%	6.5%	7.7%	8.9%	10.2%	11.4%	12.7%	13.9%	15.2%	16.4%	17.7%
20%	8.2%	9.4%	10.7%	11.9%	13.2%	14.4%	15.7%	16.9%	18.1%	19.4%
25%	9.9%	11.2%	12.4%	13.7%	14.9%	16.2%	17.4%	18.6%	19.9%	21.1%
30%	11.7%	12.9%	14.2%	15.4%	16.7%	17.9%	19.1%	20.4%	21.6%	22.9%
35%	13.4%	14.7%	15.9%	17.1%	18.4%	19.6%	20.9%	22.1%	23.4%	24.6%
40%	15.2%	16.4%	17.6%	18.9%	20.1%	21.4%	22.6%	23.9%	25.1%	26.3%
45%	16.9%	18.1%	19.4%	20.6%	21.9%	23.1%	24.4%	25.6%	26.8%	28.1%
50%	18.6%	19.9%	21.1%	22.4%	23.6%	24.9%	26.1%	27.3%	28.6%	29.8%

Exhibit 20 – Sensitivity analysis on the necessary reduction on personnel and administrative expenses to counterbalance varied decreases on credit card and current account services fees

We can conclude that a certain reduction in personnel and administrative expenses enables a proportionally larger decrease in credit card and current account services fees. Although it is impossible to know to what extent those reductions are possible, it seems that investing in technologies that improve efficiency can be a good solution to increase competitiveness against the fintechs considered.

Other important points

It is worth mentioning that to be able to apply all those recommendations the bank must have an appropriate infrastructure and enough well trained human capital. Under this perspective, the construction of the new data center mentioned in the answer to the first question will enable the bank to implement any project without constraints on data processing capacity.

As for human capital, the bank also seems to be well covered. It states that there already are data scientists, specialists in digital security and digital antifraud and people dedicated to studying and developing the client's experience in digital channels working inside the design, customer relationship management, technology and business teams. Also, the investment in Cubo offers the banks a direct access to a source of entrepreneurs and young talents, who can help the bank to anticipate and lead new innovative changes on the market.

2.4.4 How can the bank leverage its digital transformation process to achieve its other objectives?

Itaú Unibanco presented the following strategic objectives in the annual report

- Expand operations in Brazil and abroad
- Focus on non-interest income
- Continue to improve efficiency
- Maintain asset quality in the loan portfolio
- Maintain a solid capital base
- Develop a strong relationship with the clients based on client segmentation
- Transform client experience through technology

We can therefore analyze how the innovations proposed on the previous question can help the bank to achieve each objective.

Expand operations in Brazil and abroad

The bank can make use of digital technologies to help an expansion in Brazil. As discussed in the previous questions, the bank industry fails to achieve good levels of client satisfaction, and even though Itaú Unibanco is better than its competitors in that matter, there is still room for improvement. By focusing on the quality of the services provided, the bank could achieve a valuable competitive advantage which would help in attracting more clients and, hence, expanding its operations.

It was also mentioned how the bank can make use of such technologies to enhance its loan portfolio for credit cards, personal loans, vehicle financing and mortgages. This is another point by which the expansion plans could benefit. In addition, it were also discussed the trends in reduction of fees and interest charged, which the bank probably will have to follow to maintain its competitiveness

As for the operations abroad, however, there are no special commentaries to be made. Every recommendation made is applicable in all Latin America and could help the bank to expand its operations abroad, but there are none specifically geared towards that market.

Focus on non-interest income

It is a reasonable objective for a bank to focus on non-interest income, as it is a more stable source of income than interest. However, we identified a possible trend of reduction on the fees charged for credit cards and current account services, which combined account for 58.3% of the non-interest income of the bank.

Still, there are two points to be made. First, a decrease of the fees charged could be offset, at least to some extent, by the correspondent increase in the total base of credit cards and current accounts due to the higher attractiveness of the services in relation to the competitors. Second, if the bank experiences losses of clients, which are migrating to Nubank for example because of its lower fees, it will lose non-interest income. Therefore, a reduction on the commissions charged could be a way of retaining higher revenues from that type in comparison with a scenario where the bank does not act. In this sense, a decrease on the fees that the clients have to pay could be not a form of increasing non-interest income, but avoiding losing more of it.

Continue to improve efficiency

It was already discussed how the bank could make use of digital technologies to promote cost reduction, by focusing more on digital branches than on physical ones. It is also known that better internal processes could prevent losses due to malfunction or human errors. Thus, we can affirm that this objective is directly connected to the use of those technologies.

Maintain asset quality in the loan portfolio

As discussed in the previous questions, the bank could use digital technologies to attempt to increase the base loan portfolio without sacrificing the credit quality in the

categories of personal loans, vehicle financing and mortgages. This would be achieved by, respectively: the development of an application to personal loan borrowers control better their financial lives; an improvement in the market share of the portal Icarros; and a partnership with the VivaReal fintech to develop a financing simulation tool.

Maintain a solid capital base

There is not much direct connection between the use of digital technologies and the bank's capital base.

Develop a strong relationship with the clients based on client segmentation

In a way, different clients have different needs, which could benefit from different technologies. However, this is more a matter of client experience; in what concerns segmentation itself, it was not identified a possible exploitation of innovations.

Transform client experience through technology

This is clearly the strategical objective that is more related to digital technologies. In a world of constant modernization, clients will have increasing expectations. Better application of technologies available is crucial to attend the demand for higher quality services, which should be more reliable, easy to use, transparent and accessible, with the recommendations made being able to provide that. First, the application to help control the financial life of the client, the tool to simulate mortgages and the increased use of digital credit cards and branches are ways to provide more practical solutions to the clients. Second, a reduction of the fees and interest charged and an increase on the rate paid on deposits can reduce the clients' feelings of being abused, something very common in banking services. More and more, people will think that some services, such as transfers between banks, should be basic and free of charge, and that they should gain more when they lend and pay less when they borrow.

2.5 Conclusions

Itaú Unibanco seems to be on the right track regarding the use of digital technologies. There is a concern at the strategical level of the company and the bank has been able to make good use of them in its normal business activities. However, the bank could still improve in some aspects, both to achieve a better performance than its competitors and to adapt with the new market trends generated with the Brazilian fintechs, specially Nubank, Guia Bolso, Credits and VivaReal. Most of the recommendations developed requires resources that the bank already has internally and could possibly be enabled by macroeconomic conditions. Also, they present a good level of synergy with the strategical objectives of the bank.

We can summarize our conclusions regarding each question proposed by this case study.

Where is the bank successfully applying digital technologies to obtain competitive advantage? Where it has to improve?

- The bank was able to successfully translate the concern with digital technologies on its organizational structure with the Technology and Operations executive area and the Digital Advisory Board.

- On its main business activities, the bank is successfully applying digital technologies specially on the credit card, vehicle financing and merchant acquirer market, as well as in general retail banking activities through the digital branches (although the high-income segment receives a special attention).
- Itaú Unibanco made relevant investments that increase the long-term capacity to innovate, those being the new data center and Cubo.
- Still, the bank is not able to leverage the use of technologies to improve the client experience well enough to exploit benefits. The possibility to increase the distance between satisfaction level of their clients and clients from competitors is a source of competitive advantage not yet realized.

What are the main areas of interest for Itaú Unibanco to invest in digital innovation?

The main areas of interest for Itaú Unibanco to invest in digital innovation are:

- The credit card market, to attend an increasing demand for digital cards and enable a reduction on fees and interest rates charged, due to the competition generated by Nubank
- The personal loans segment, to improve the credit quality of the category and face competition of lower interest rates generated by Creditas and Guia Bolso
- The Vehicle segment, to make better use of the current applied technologies to improve the loan portfolio
- The mortgage category, a market which offers good quality loans and that the bank seems interested at
- Current account services, to promote a fee reduction due to the competition generated by Nubank
- Regarding interest on deposits, it is interesting to address if it is possible to offer higher returns to depositors, again due to the competition from Nubank
- Personnel and administrative expenses, to improve efficiency and promote cost-cutting

How can Itaú Unibanco successfully innovate in those areas? Does the bank already have the available resources, or it must search externally?

The actions suggested comprise:

- Continue investing on the use of digital credit cards; the bank has all the resources needed
- Develop and application to personal loan clients control better their financial lives, in an attempt to improve credit quality; the bank has all the resources needed
- Improve the market share of the portal Icarros to gain access to a larger base of potential clients for vehicle financing; the bank has all the resources needed
- Develop a similar financing simulation tool used in vehicle financing geared towards the mortgage market, in an attempt to increase market share; the bank would have to search for a partnership, outside of its own pool of resources

- Lower interest rates on loans and higher rates on deposits could be enabled by a reduction on the base rate of the Brazilian economy; however, to not lose profitability, the bank probably would have to increase its loan portfolio. Also, the decision depends heavily on the impact that the fintechs discussed might have on Itaú Unibanco's operations
- A reduction on fees for credit cards and current account services could be backed by a reduction on personnel and administrative expenses, through an improvement in efficiency

How can the bank leverage its digital transformation process to achieve its other objectives?

The bank has five out of seven strategic objectives that can be easier achieved with the use of digital technologies are:

- Expansions of operations on Brazil and abroad – by making its services more attractive
- Focus on non-interest income – enabling a reduction on fees to defend from competition generated by fintechs
- Improve efficiency – reduction on personnel and administrative expenses
- Maintenance of the asset quality of the loan portfolio – by making investments which help increasing the credit quality of loans
- Transformation of the client experience through the client experience – by providing more practical and suitable services and products, which better attend clients' expectations.

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4. Appendix

Appendix 1 – Statements of Income between 2014 and 2016

Statement of income	As of December, 31						
	2016	2015	2014	2016-2015	%	2015-2014	%
(In millions of R\$, except percentages)							
Banking Product	118,661	92,011	91,657	26,650	29.0	354	0.4
Losses on Loans and Claims	(22,122)	(21,335)	(15,801)	(787)	3.7	(5,534)	35.0
Banking Product Net of Losses on Loans and Claims	96,539	70,676	75,856	25,863	36.6	(5,180)	(6.8)
General and Administrative Expenses	(50,904)	(47,626)	(42,550)	(3,278)	6.9	(5,076)	11.9
Tax Expenses	(7,971)	(5,405)	(5,063)	(2,566)	47.5	(342)	6.8
Share of profit or (loss) in associates and joint ventures	528	620	565	(92)	(14.8)	55	9.7
Current Income Tax and Social Contribution	(3,898)	(8,965)	(7,209)	5,067	(56.5)	(1,756)	24.4
Deferred Income Tax and Social Contribution	(10,712)	16,856	262	(27,568)	(163.6)	16,594	6,333.6
Net Income	23,582	26,156	21,861	(2,574)	(9.8)	4,295	19.6
Net Income Attributable to Owners of the Parent Company	23,263	25,740	21,555	(2,477)	(9.6)	4,185	19.4
Net Income Attributable to Non-Controlling Interests	319	416	306	(97)	(23.3)	110	35.9

Appendix 2 – Assets between 2014 and 2016

Assets	As of December, 31						
	2016	2015	2014	2016-2015	%	2015-2014	%
(In millions of R\$, except percentages)							
Cash and deposits on demand	18,542	18,544	17,527	(2)	0.0	1,017	5.8
Central Bank compulsory deposits	85,700	66,556	63,106	19,144	28.8	3,450	5.5
Interbank deposits	22,692	30,525	23,081	(7,833)	(25.7)	7,444	32.3
Securities purchased under agreements to resell	265,051	254,404	208,918	10,647	4.2	45,486	21.8
Financial assets held for trading	204,648	164,311	132,944	40,337	24.5	31,367	23.6
Financial assets designated at fair value through profit or loss	1,191	642	733	549	85.5	(91)	(12.4)
Derivatives	24,231	26,755	14,156	(2,524)	(9.4)	12,599	89.0
Available-for-sale financial assets	88,277	86,045	78,360	2,232	2.6	7,685	9.8
Held-to-maturity financial assets	40,495	42,185	34,434	(1,690)	(4.0)	7,751	22.5
Loan operations and lease operations portfolio, net	463,394	447,404	430,039	15,990	3.6	17,365	4.0
Loan operations and lease operations portfolio	490,366	474,248	452,431	16,118	3.4	21,817	4.8
(-) Allowance for loan and lease losses	(26,972)	(26,844)	(22,392)	(128)	0.5	(4,452)	19.9
Other financial assets	53,917	53,506	53,649	411	0.8	(143)	(0.3)
Investments in associates and joint ventures	5,073	4,399	4,090	674	15.3	309	7.6
Goodwill	9,675	2,057	1,961	7,618	370.3	96	4.9
Fixed assets, net	8,042	8,541	8,711	(499)	(5.8)	(170)	(2.0)
Intangible assets, net	7,381	6,295	6,134	1,086	17.3	161	2.6
Tax assets	44,274	52,149	35,243	(7,875)	(15.1)	16,906	48.0
Assets held for sale	631	486	196	145	29.8	290	148.0
Other assets	10,027	11,611	13,921	(1,584)	(13.6)	(2,310)	(16.6)
Total assets	1,353,241	1,276,415	1,127,203	76,826	6.0	149,212	13.2
Average interest-earning assets	1,151,430	1,070,450	955,416	80,980	7.6	115,034	12.0
Average non-interest-earning assets	159,779	115,596	97,526	44,183	38.2	18,070	18.5
Average total assets	1,311,209	1,186,046	1,052,942	125,163	10.6	133,104	12.6

Appendix 3 – Liabilities between 2014 and 2016

Liabilities	As of December, 31						
	2016	2015	2014	2016-2015	%	2015-2014	%
(In millions of R\$, except percentages)							
Deposits	329,414	292,610	294,773	36,804	12.6	(2,163)	(0.7)
Securities sold under repurchase agreements	349,164	336,643	288,683	12,521	3.7	47,960	16.6
Financial liabilities held for trading	519	412	520	107	26.0	(108)	(20.8)
Derivatives	24,698	31,071	17,350	(6,373)	(20.5)	13,721	79.1
Interbank market debt	135,483	156,886	122,586	(21,403)	(13.6)	34,300	28.0
Institutional market debt	96,239	93,918	73,242	2,321	2.5	20,676	28.2
Other financial liabilities	71,832	68,715	71,492	3,117	4.5	(2,777)	(3.9)
Reserves for insurance and private pension	154,076	129,305	109,778	24,771	19.2	19,527	17.8
Liabilities for capitalization plans	3,147	3,044	3,010	103	3.4	34	1.1
Provisions	20,909	18,994	17,027	1,915	10.1	1,967	11.6
Tax liabilities	5,836	4,971	4,465	865	17.4	506	11.3
Other liabilities	27,110	25,787	23,660	1,323	5.1	2,127	9.0
Total liabilities	1,218,427	1,162,356	1,026,586	56,071	4.8	135,770	13.2
Capital	97,148	85,148	75,000	12,000	14.1	10,148	13.5
Treasury shares	(1,882)	(4,353)	(1,328)	2,471	(56.8)	(3,025)	227.8
Additional paid-in capital	1,785	1,733	1,508	52	3.0	225	14.9
Appropriated reserves	3,443	10,067	8,210	(6,624)	(65.8)	1,857	22.6
Unappropriated reserves	25,362	20,947	16,301	4,415	21.1	4,646	28.5
Cumulative other comprehensive income	(3,274)	(1,290)	(431)	(1,984)	153.8	(859)	199.3
Total stockholders' equity attributed to the owners of the parent company	122,582	112,252	99,260	10,330	9.2	12,992	13.1
Non-controlling interests	12,232	1,807	1,357	10,425	576.9	450	33.2
Total stockholders' equity	134,814	114,059	100,617	20,755	18.2	13,442	13.4
Total liabilities and stockholders' equity	1,353,241	1,276,415	1,127,203	77	6.0	149	13.2
Average interest-bearing liabilities	969,461	875,904	793,069	93,557	10.7	82,835	10.4
Average non-interest-bearing liabilities	214,024	203,376	169,247	10,648	5.2	34,129	20.2
Total average stockholders' equity	127,724	106,766	90,626	20,958	19.6	16,140	17.8
Total average liabilities and stockholders' equity	1,311,209	1,186,046	1,052,942	125,163	10.6	133,104	12.6