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DIGITAL FINANCIAL SERVICES

Promoting Rural Financial Inclusion Through Transversal Collaboration

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INTRODUCTION

1.1 ACKNOWLEDGMENTS

This report is the result of effort, time, trust, and collaboration. It would not have been possible without the generous support from many people and institutions, and we would like to acknowledge them all for their valuable contribution.

We thank the organizations that have greatly contributed to both the process of reviewing the survey design and the dissemination and follow-up process to obtain answers. We thank the Fintech Association of Mexico and its Managing Director, Eduardo Guraieb, as well as its President, Francisco Meré. Jorge Ortiz, former president of the association, and especially Josu San Martín, former director of the association, thanks to whom this project began.

In addition, we thank the Mexican Association of PE & VC Funds (AMEXCAP), both its current Managing Director, Liliana Reyes, and her predecessor, María Ariza. Thanks to Santiago Salinas, former head of Institutional Relations at AMEXCAP, and Mónica Pascua and Juan Pablo Migoya, also part of this association, for their collaboration, contribution, and support. We thank Indava for their collaboration through Ricardo Beltrán, Karen Alarcón, and Nayeli Rodríguez to contact other fintech companies, beyond the members of Fintech Association of Mexico.

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The National Program for Financing Microentrepreneurs and Rural Women (PRONAFIM), especially its Deputy General Director of Planning and Public Policy, Brenda Zayola Olvera, for her feedback regarding the survey, and for the support and facilities granted to conduct it during the 16th National Microfinance Conference. We would also like to especially thank the participation of the National Banking and Securities Commission (CNBV), through the Vice President of Regulatory Policies, Carlos Orta, for his timely input and that of his team, regarding the survey. We thank the Bank of Mexico for their feedback during the meeting where the project and its scope were presented, through the Financial Services Evaluation Department headed by Jose Luis Negrín. Similarly, we thank the National Institute of the Entrepreneur (INADEM), for their time and availability.

To fintech company executives that agreed to participate in the in-depth interviews and to the managers of non-bank financial intermediaries (NFBI) who provided their opinion on the survey, we are grateful for the willingness and valuable time they spent during the interviews. Their contribution was decisive in the development of this report.

A special thank you to those who collaborated: Gabriela Zapata Alvarez, Anca Bogdana Rusu, Fernanda Díaz Rodríguez, Christina Olsen, Carmen Lara, and Dulce Escobar Luna.

To the staff at Fundación Alemana Servicios, especially its Director, Luis Proaño: your solidarity and teamwork made it possible to obtain such a high number of NFBI survey answers.

We would especially like to thank our Managing Director, Niclaus Bergmann, and our Latin America & Caribbean Director, Gerd Weissbach, as well as Inka Rank, Project Manager, for their trust and support.

1.2 EXECUTIVE SUMMARY

This diagnosis identifies current opportunities and needs in terms of the possibility of digitalization to facilitate increased financial inclusion in Mexico and an improvement in current financial services –both of fintech companies and non-bank financial intermediaries (NBFI)– in rural areas and for people who do not have access to them.

1. First, it is essential **to promote connectivity at a national level.**
2. Competitiveness needs to be driven among traditional financial services providers, as well as in telecommunication, digital services, and technology.
3. On the other hand, non-bank financial intermediaries could obtain more advantages by **updating their knowledge about digitalization**, fintech activity and the benefits offered by them.
4. Strengthening and encouraging good performance and competitive development of "support services,"[1] and driving human capital development is highly important to leverage benefits of the digital world.
5. To benefit from digitalization, **internal organization needs must be considered**, based on strategic views and with measurable objectives that take into account the context and characteristics of institutions, with defined and feasible scopes and strategies.
6. Most fintech companies, NBFIs, and venture capital companies see benefits and opportunities in **collaborating** through partnerships to promote financial inclusion in the rural sector and improve their own economic performance.
7. Last, **access to capital is difficult in Mexico**; financing through savings or family and friends is very common. Access to networks and opportunities that VCs and incubators and accelerators entail contributes to qualify the experiences with them as positive and also influences fintech companies to perceive these investors as a source of value.

1.3 BACKGROUND

As a brief background to provide a context to the reason and approach of the diagnosis presented herein, it is worth mentioning that one of the factors that have driven the growth of German savings banks (Sparkassen) has been their orientation toward digitalization in recent years.

The benefits of efforts toward digitalization by Sparkassen have been numerous and the scope of the observed results has made digitalization a fundamental part of their growth and development strategy.

Positive results both for users and German savings banks are a lesson learned that would be good to share. Thus, Sparkassenstiftung developed this diagnosis in a cooperation effort, as a first step to create an archive that enables the sharing of experiences of different Latin American countries with digitalization for financial inclusion, in terms of their best practices and the methods applied to obtain the desired achievements.

As such, this diagnosis seeks to understand the state of the current situation of both fintech activity and digitalization in financial services in Mexico for purposes of inclusion in rural areas and of the population not included in traditional financial services.

The importance of being aware of this state lies in the potential that this information has to leverage digitalization in favor of the sectors of the population that are in most need of their benefits in Mexico and, in this sense, also increase financial inclusion in the country. In the near future, it is expected that these aspects are analyzed for other Latin American countries too.

1.4 QUESTIONS TO ANSWER

The main objective of this paper is to diagnose the digitalization state of NBFIs, and the conditions in which fintech companies operate, in order to assess how to improve the supply of financial services with a view to increase financial inclusion in rural areas and for people who do not have access to these services.

FINTECH

Regarding fintech activity in Mexico, it is worth knowing about the opportunities and obstacles these organizations face in terms of their growth, their sources of funding, their outlook on financial inclusion, and the way in which risk investors and NBFIs perceive these organizations. Based on the aforementioned, following questions were formulated:

1. What is the development state of the fintech industry[1] in Mexico? What opportunities and challenges does it pose for it, NBFIs, and VCs?

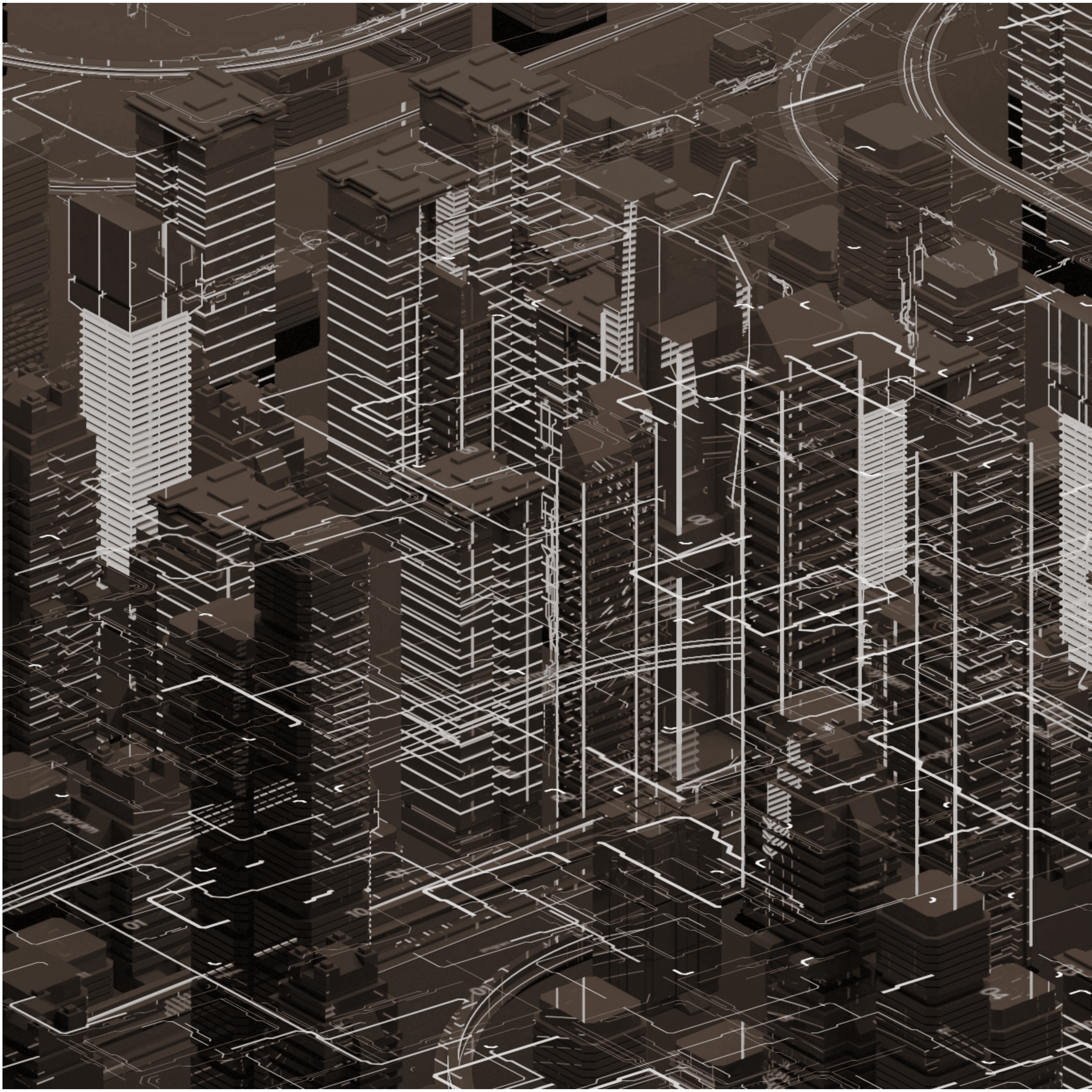
2. How do some support elements work for this activity, such as capital resources and consultancy? Are these enough for fintech companies to become a relevant player in the digitalization process of financial services in the country??

NBFI

Regarding the way in which digitalization helps NBFIs promote financial inclusion in the rural sector, how to overcome the challenges and benefit from opportunities that these agents and fintech companies perceive in relation to digitalization and inclusion, we were drawn to discover the way in which these institutions evaluate partnerships as an alternative to progress on these issues, which gave rise to the following questions:

1. Do financial intermediaries believe they can complement their abilities through strategic partnerships to better leverage opportunities offered by digitalization?

2. What are the most relevant areas (market expansion, cost reduction, regulatory compliance, etc.) for a possible collaboration (NBFI-fintech) that can favor growth and leverage new business opportunities?



Fintech definition:

It is essential to establish the meaning of the term fintech used in this report. The definition is taken from established regulatory institutions. **For the Basel Committee on Banking Supervision**, fintech is "technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services."[2]

In Mexico, according to the Law to Regulate Financial Technology Institutions[3] (ITF), it has to do with collective financing institutions and institutions of electronic payment funds.

The European Banking Authority (EBA) highlights that "fintech" is a term that commonly refers to a scenario of innovative startups with an effect on the field of finance. When defining fintech, the EBA borrows the Basel Committee on Banking Supervision definition, which is the one used in this report[4].

This report on fintech activity not only refers to business ventures, but also to the processes of companies. When talking about specifically digital organizations, financial technology companies or fintech companies are mentioned as such. This is done with the purpose of emphasizing efficiency in the entire range of services, products, and financial infrastructure.

2

RESULTS

MAIN DIAGNOSIS RESULTS[5]

Digital and technological transformation has changed the financial services offer to the point that it enabled the emergence of new business models as companies, whose value offer depends entirely on new "financial technologies."[6] However, **the technological revolution is not exclusive to business ventures**; financial technologies can also be leveraged by financial intermediaries to improve their service offer. The fundamental thing is to take advantage of opportunities and allow their benefits to reach those who most need them.

2.1 FINTECH OPERATION

2.2 DIGITALIZATION IN NBFIs

2.3 VISION OF VCs ON FINTECH ACTIVITY

2.4 INVESTMENT FOR DIGITALIZATION

2.5 PROMOTING FINANCIAL INCLUSION

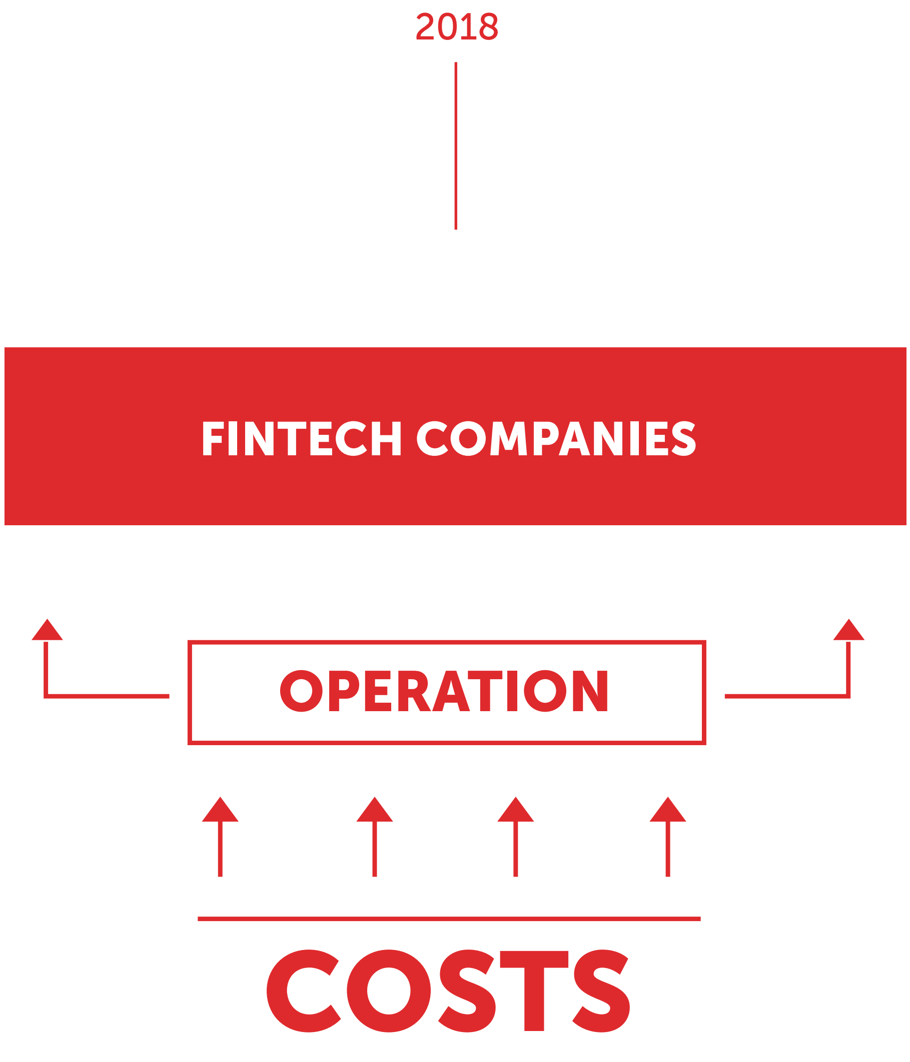
2.1

FINTECH OPERATION

- General characteristics of fintech activities in Mexico
- Main costs within fintech companies
- Financial and telecommunication industries vis- à-vis fintech companies

GENERAL OVERVIEW OF THE FINTECH OPERATION

This section presents data that reflect general market characteristics for fintech companies, the development perspective that their founders and executives have for them, as well as the way in which different costs affect their operation and how the dynamics of the technology/telecommunication and financial industries impact them.


2018
FINTECH COMPANIES
OPERATION
COSTS

2019

PERSPECTIVES

FOUNDERS AND EXECUTIVES

2.1.1 GENERAL CHARACTERISTICS OF FINTECH ACTIVITIES IN MEXICO

In general, fintech companies have been around for under six years, i.e., they are at the beginning of their activity and/or are growing. Most of these organizations with operations in Mexico are national and their activity is mainly found in urban areas, with clients that are already included in the traditional financial system.

A Participants per fintech category

Throughout the study, various sources were reviewed in detail, and data errors and conceptual flaws in the presentation of their information were identified.

In order to avoid repeating messages that refer to a false idea of fintech activity in Mexico, we decided to review fintech companies one by one to establish which of them really are fintech companies, and how many there are in the Mexican market. As of September 20, 2018, there were **228** fintech companies reported.

Table 1. Fintech landscape in Mexico

FINTECH CLASSIFICATION IN MEXICO	OPERATING COMPANIES	PERCENTAGE PER CLASSIFICATION
Payment methods	57	25%
Digital loan generation	39	17%
Financial solutions for companies	37	16%
Crowdfunding	27	12%
Personal finances and financial consulting	26	11%
Infrastructure for financial services	19	8%
Insurtech	13	6%
Cryptocurrencies and blockchain	7	3%
Disruptive financial entities	2	1%
Financial markets	1	0%
	228	**100%**

*Note: Crypto-assets would be a more appropriate term.

Table 2. Fintech in lending

SUBCLASSIFICATION	OPERATING COMPANIES	PERCENTAGE*
Natural person	29	13%
Legal entity	10	4%
Collective loans	24	11%
Collection platform	3	1%

*Note: This proportion is related to the total of companies, i.e., 228.

The following are the general characteristics that distinguish each category from the business verticals that the Fintech Association of Mexico proposes. Furthermore, two categories are broken down into their own classifications:

1. Digital loan generation, broken down into loans to natural persons and loans to legal entities.
2. Collective funding: collective loans and collection platforms.

Below are the main characteristics of the value offer for these organizations expressed in a general way for all categories.

Payment methods and transfers[7]

Among the 57 companies in this activity, we found organizations mainly focused on payment platforms, loyalty programs, service payments, reversible payments, payment and transfer notifications, balance controls, tools for sales and revenue management, portfolio management, transfers, remittances, credit lines on sales levels, application of deferred payment programs, cell phone, tablet, or video game console payments, payments with and without a bank account, purchase and sale of cryptocurrencies, withdrawals and deposits in local currency, and release of funds from payment platforms and electronic portfolios not connected to the banking system.

Infrastructure for financial services[8]

Among the 19 companies that were assessed in this classification, we found that their activities are mainly limited to modular digital development solutions, digital tools by segment of the value chain, risk assessment companies, security and identity verification, correspondents, data analysis, electronic signature of contracts, and smart solutions.

Loans and financing

There are 29 companies granting loans to natural persons and 10 to legal entities, a total of 39 in this category. Regarding collective financing –area in which a greater number of companies closed during the study period–, 24 organizations focus on crowdfunding and are approved by the CNBV or are going through that process, and 3 collect, by digital means, for donations and various projects.

Financial solutions for companies[9]

Among the 37 companies with this service offer, we identified mainly the following activities: billing, tax administration, cloud services, sales and purchasing administration, business intelligence, accounting, factoring, regulatory compliance, recurring charges, business digital management and operation, logistics optimization, procurement management, purchasing, and payroll.

Personal finances and financial consulting[10]

The 26 organizations in this category mainly offer services to invest, to save, to achieve asset or spending/consumption goals, to acquire products and services for asset management, for tax administration, and consultancy to resolve debts.

Financial markets[11]

We identified a digital brokerage house, which also complements its value offer with training and consultancy for investment and asset development.

Insurtech[12]

Among the 13 companies, the following services offered mainly stand out: comparators, electronic payments, savings and retirement plans, car and health insurance, the possibility of keeping electronic clinical records with the option of prescriptions and electronic billing, and business, merchandise transportation, medical, and personal insurance.

Cryptocurrencies and blockchain[13]

The seven organizations in this category offer exchange platforms and transfer of different cryptocurrencies.

Disruptive financial entities

Two digital banks operating in Mexico were found.

In sum, the most dynamic activities in fintech respond to the needs of the financial industry itself, almost as a support service through payment methods and, secondly, to the needs of the economy not included in the financial system in terms of loans, savings, and investment.

An overview of the fintech activity reality in Mexico allows us to validate one of the premises of this report: this offer is under development and it is important to recognize and identify its challenges and obstacles to better leverage –collectively– the opportunities offered by digitalization.

B Commercial activity

Regarding this section, we deemed important to make known the profile of these companies, since this diagnosis seeks to find out how to increase financial inclusion in rural areas and for the population not served by the traditional financial system.

92% of fintech clients are in the urban sphere

52% of these organizations serve B2B (business-to-business), mainly MSMEs

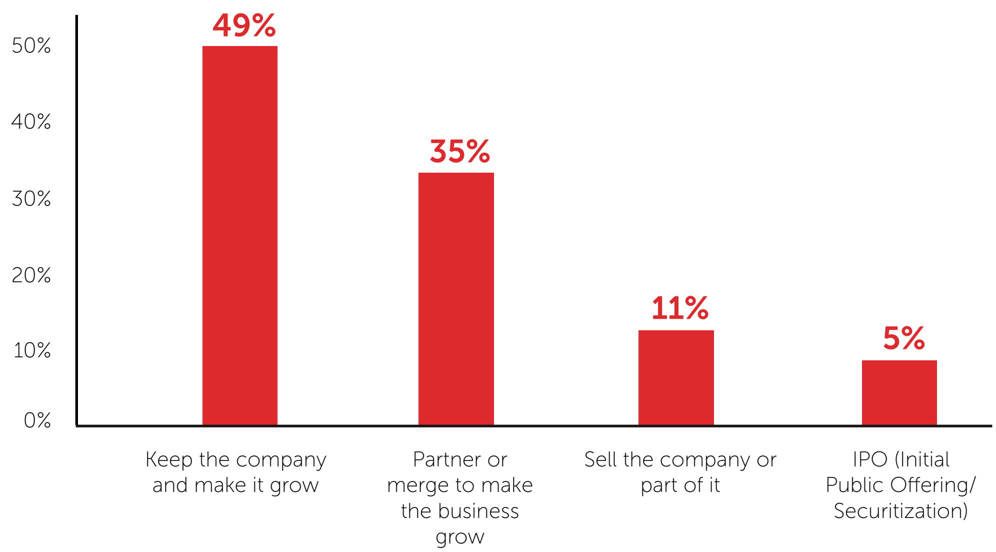
48% of fintech companies serve B2C (business-to-consumer)

64% of those clients need a bank account to be able to use the services offered by these institutions

C Business perspectives

The diagnosis also focused on identifying expectations that entrepreneurs in charge of fintech companies have regarding their businesses.

Graph 1. Perspectives of entrepreneurs for the development of their companies



- **56% of fintech companies, most of which are recently established,** do audit their financial statements. This reveals the institutionalist and entrepreneurial character of most of these startups. This is confirmed as these entrepreneurs see partnerships and cooperation possibilities as an alternative to face the challenges in the field in which they operate.

- Since, to enjoy the services of fintech companies, a bank account is required (64% of the time), expanding the market of these organizations to rural areas represents a significant growth opportunity.

2.1.2 MAIN COSTS OF FINTECH COMPANIES

It was deemed necessary to evaluate the impact that certain costs have on fintech activity, because in-depth interviews showed —repeatedly— that business ventures not only face operational and administrative costs, but also the inefficiency of related industries (market failures and consequent negative externalities), which has adverse effects on the way in which activities are developed and detract from performance.

The data in this section come from the closed-ended and individual questions. Hence, percentages do not add up to 100. These data are relevant because of the entrepreneurs' incident perception in their activity, that is, information associated to costs in this section lies more in the economics realm than the accounting one.

A Regulatory, tax, and labor burden

- For over **80%** of fintech companies, labor burden has an impact on more than **35%** of their costs.
- Over half of fintech companies indicated that regulatory and supervision burdens affect more than **35%** of their costs.
- Almost half of fintech companies mention that tax burden affects over **35%** of their costs.

Regulatory, tax, and labor burdens have an impact in over **35%** of fintech companies. This, together with costs associated with customer acquisition and the challenges that these organizations face as a result of the dynamics in the banking and technology/communications industries, determines an environment that is far from being consolidated for the development of fintech activity.

B Customer acquisition, infrastructure, security, and financing

Customer acquisition costs suggest how much elements such as education and access to technology affect the development and use of fintech tools.

53% For a little over half of fintech companies, customer acquisition costs represent more than 35% of their costs.

For more than one third of fintech companies, these costs affect them 50% or more.

45% Forty-five percent of fintech companies believe their costs are affected by 75% as a result of technology infrastructure characteristics.

Costs that most affect fintech companies are those related to regulatory, tax, and labor burdens, even more so than those related to customer acquisition and technological infrastructure.

39% Costs associated with cybersecurity affect by 55% almost 40% of fintech companies.

On numerous occasions, fintech companies have pointed out the difficulty they face in accessing growth resources.

34% Costs associated with financing affect by 55% almost 35% of fintech companies.

2.1.3 FINANCIAL AND TELECOMMUNICATION INDUSTRIES VIS-À-VIS FINTECH COMPANIES

This section presents the main difficulties that fintech activity perceives in related industries. The type of difficulties and magnitude of the damage according to entrepreneurs allow us to clearly see that fintech activity has yet to stabilize and consolidate.

CHART 1. MAIN PROBLEMS FACED BY FINTECH COMPANIES

Lack of digital/technological skills and abilities among current and potential users of their services	**50%**
Current conditions of the technological infrastructure (reliability and costs for data transmission, etc.)	**40%**
Insufficient coverage and broadband speed (interconnection, opening accounts, accessing loans, etc.)	**39%**
Characteristics of the financial infrastructure (shortage of access points (cash-in), interconnection, opening accounts, accessing loans, etc.)	**37%**
Lack of developers and programmers with industry-required skills	**37%**
Fraud/corruption/insecurity regarding loan history	**31%**
Quality and quantity of secured transaction and real estate registries on loan history	**29%**

Note: The data come from the closed-ended and individual questions. Hence, percentages do not add up to 100.

- Over half of fintech companies are affected in more than 50% of their average expenses by the lack of digital skills and abilities among their users.
- In turn, 40% of these companies stated that current technology infrastructure conditions impact over 50% of their average costs.
- These two points most harm the development of efficiency in fintech activity. However, the others mentioned also affect more than half of the average costs that fintech companies incur in.

CHART 2. MAIN IMPROVEMENT OPPORTUNITIES AMONG FINTECH COMPANIES AND THE FINANCIAL SYSTEM

A reliable identity verification census	**76%**
Make opening an account easier and improve access to financing and loans	**72%**
Improve access conditions and the quality of loan history information	**64%**
Facilitate the resolution of clarifications and claims (countercharges)	**63%**

Regarding opportunities in the Mexican financial system, more than 60% of fintech companies indicate that reported aspects harm them by more than half of their average costs.

CHART 3. MAIN IMPROVEMENT OPPORTUNITIES THAT FINTECH COMPANIES SEE IN DIGITAL INFRASTRUCTURE

API connectivity, difficulty accessing and operating the Interbank Electronic Payment System (SPEI), etc.	**78%**
Cybersecurity	**64%**
Technology at more accessible costs for its users	**62%**
Data transmission reliability	**61%**
More competitive data transmission costs	**55%**
Coverage (broadband, cellular networks, fiber optics)	**54%**

Regarding opportunities in Mexico’s digital infrastructure, over 60% of fintech companies state that current conditions of connectivity, security, technology access costs, and reliability in data transmission affect them in more than half of their average costs.

Among the main obstacles that fintech activity faces, the following stand out:

1

Education (lack of digital abilities and skills on the demand side).

2

The financial services offer that does not respond to requirements of these companies.

3

The importance of access to financial resources, the certainty that bank accounts will not be closed, and the fast, equitable, and transparent solution for charges and countercharges are very important aspects.

Infrastructure characteristics make coverage in rural areas difficult due to connectivity, reliability, security, and terms of access to technology and its use.

Although not all of these companies have the same problem, what does stand out is the fact that the conditions of both financial and telecommunications infrastructure and data transmission, as well as the lack of customer abilities and skills to leverage digitalization, the insufficient preparation of technicians who could contribute to the development of the value offer of fintech companies, and regulatory, fiscal, and labor burdens are all elements that affect the potential of fintech companies in general.

2.2 DIGITALIZATION IN NBFIs

- Digitalization progress in NBFIs
- Obstacles and risks to begin digitalization in NBFIs

DIGITALIZATION IN NBFIs

This section presents findings related to the interest, experience, and obstacles that non-bank financial intermediaries report regarding their own digitalization.

Over 50% of NBFIs identify traditional priorities to favor their organization's performance in the next year –such as sales force, offices and branches, marketing and advertising, as well as development of new products. On the other hand, it is worth highlighting that survey respondents do not consider digitalization as the highest priority for that purpose.

This section shows the results of the digitalization progress of NBFIs, the experience (in terms of focus, activities, and results) of those who have initiated some digitalization process, and the perspective of those who have not yet started –in terms of (internal and external) obstacles and risks they perceive.

+50%

of

NBFIs

PRIORITIES FOR PERFORMANCE

Sales force

Offices

Advertising

Marketing

2019

2.2.1 DIGITALIZATION PROGRESS IN NBFIs

For NBFIs, there is an opportunity to understand more about digitalization in terms of its benefits and development potential offered. The population is almost divided in two (47%): those who have started to work toward digitalization and those who are interested in it but have not yet begun the process.

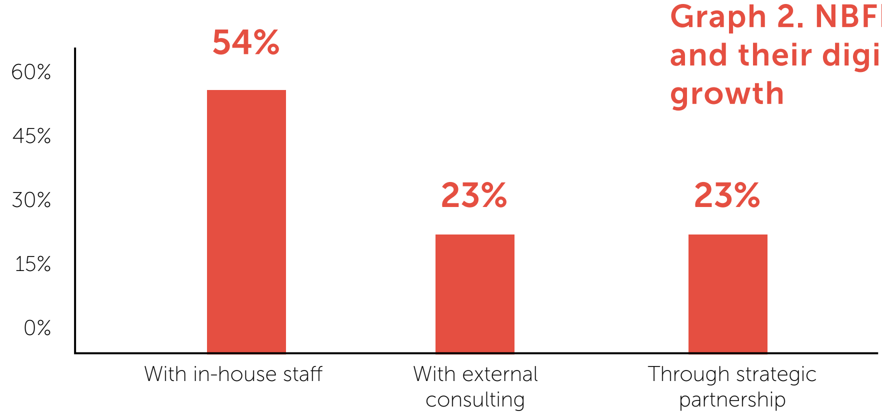
A The strategic approach of NBFIs to become digitalized

Below are some data regarding how many NBFIs had a digitalization strategy and their approach.

58%	At the beginning of their digitalization, 58% of NBFIs had a corporate strategy for it.
35%	At the beginning of their digitalization, 35% of NBFIs DID NOT have a corporate strategy for it.
7%	The remaining 7% answered "I don't know."

Those who began digitalization chose to develop their digital offer mainly with their own staff. However, the 46% who chose a different path represents an attractive opportunity for fintech companies to form a strategic partnership or provide NBFIs with services.

Graph 2. NBFIs and their digital growth

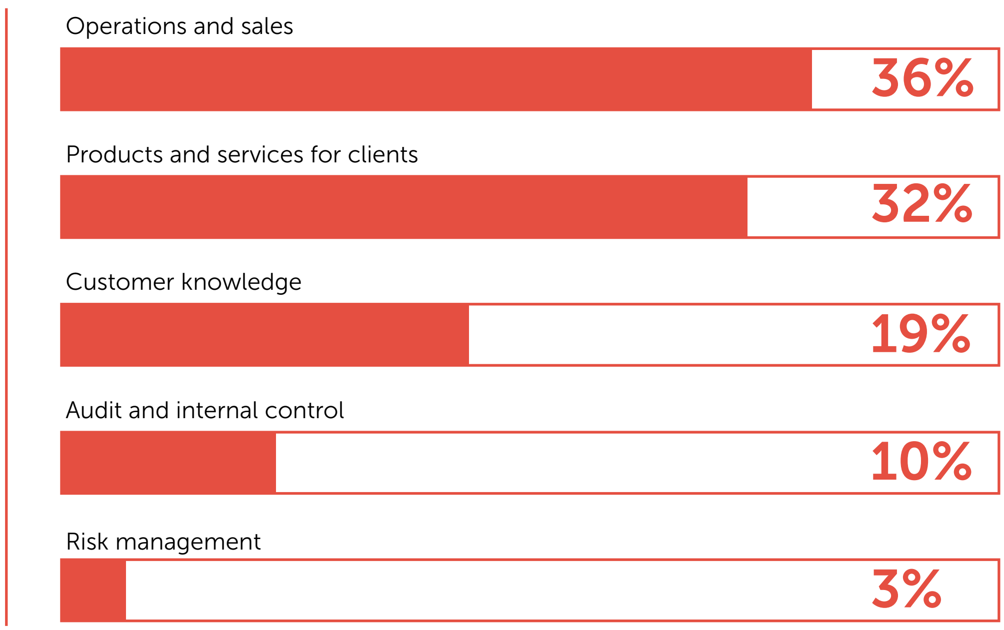


Opportunity for fintech companies among NBFIs is just over 45% of the market. Digitalization needs among these actors offer the possibility to make the segments of digital solutions for companies and of infrastructure for financial services more dynamic, among other activities.

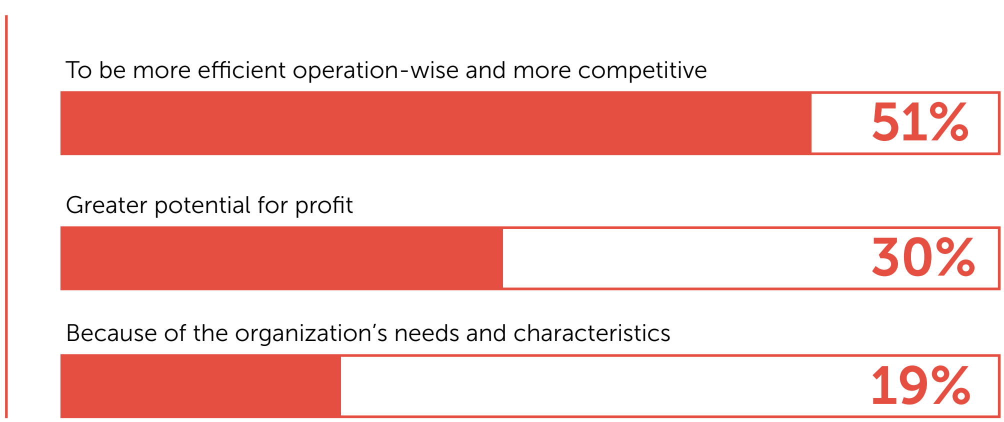
B NBFI activities defined as priorities for digitalization

In order to assess the more feasible way to get better results in digitalization, we aimed to identify the activities in which digitalization efforts were a priority for NBFIs.

Graph 3. Business areas that NBFIs started digitalizing first

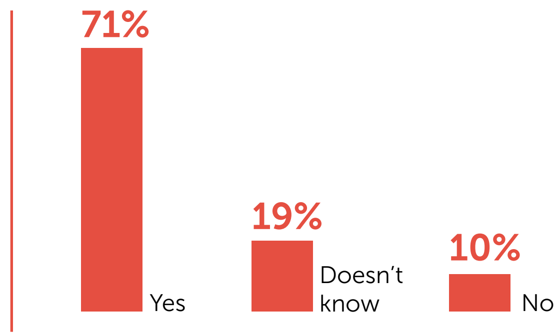


Graph 4. Reasons why NBFIs decided to begin digitalization with the different business areas presented in Graph 3

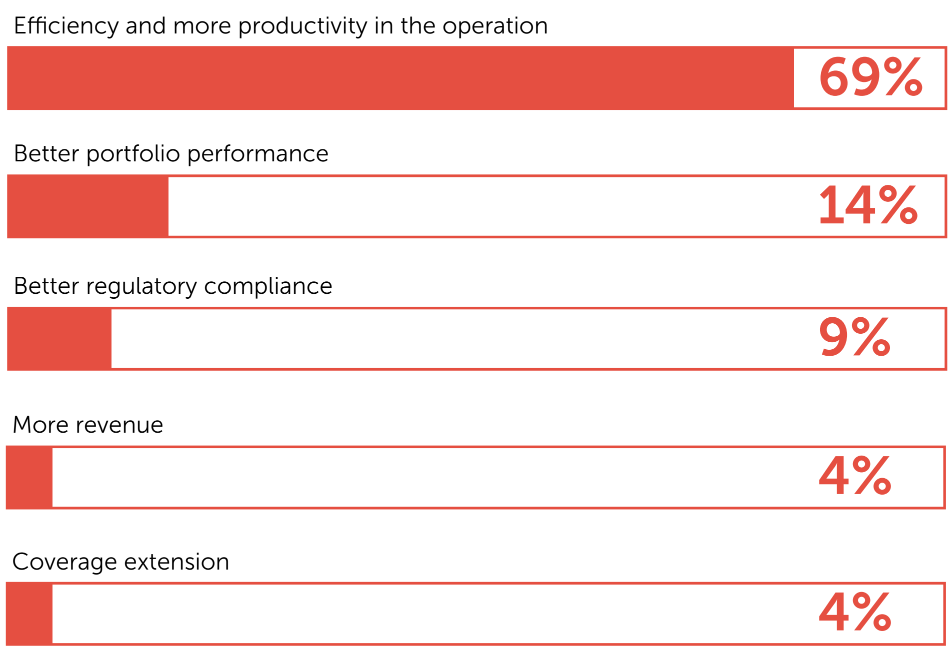


C Main perceived results from the digitalization process

Graph 5. NBFIs that have benefited from digitalization



Graph 6. Areas in which NBFIs have seen benefits in their digitalization



One of the aspects that stand out is that the benefits of digitalization among NBFIs are confined to process efficiency; digitalization benefits were not seen in either the increase in revenue or risk measurement.

2.2.2 OBSTACLES AND RISKS TO BEGIN DIGITALIZATION IN NBFIs

This section presents answers to what NBFIs perceive as risk and obstacles –both internal and external– regarding digitalization. The aim is to find out about the perception of opportunities and challenges of digitalization. What stands out is that the most important thing is to better understand these tools and their scope.

A Internal factors

85%

Issues NBFIs pointed out as important and very important internal obstacles –85% of the time– include:

- Little availability of specialized professionals to achieve digitalization
- The incompatibility of their company's infrastructure with the technology required for digitalization
- The company's strategic priority is not digitalization

B External factors

The main important and very important external obstacles that NBFIs face in more than 90% of the time are lack of resources and funding.

97% Lack of government funding

93% Do not have the resources

87%

Issues NBFIs pointed out as important and very important external obstacles –over 85% of the time– include:

- Lack of digital skills in clients
- Interconnection difficulties with external agents

Note: Due to the length of the survey –or lack thereof–, no additional questions were asked to delve into these obstacles. However, the recommendations section presents opinions regarding these issues (in order to see results in closing existing gaps through access to technology and partnerships, technical assistance, training based on certain indicators and institutional characteristics, among others, without necessarily transferring resources or subsidies).

C Digitalization risks

We considered important to identify risk perception among NBFIs, in order to figure out what discourages NBFIs from starting this process. Data security and reliability play a central role in NBFIs risk perception.

41%	Poor infrastructure and suppliers are not 100% reliable
47%	"The service can fail and consequently the reputation would be damaged"
53%	Data protection

2.3 VISION OF VCs ON FINTECH ACTIVITY

- Perceived risks in fintech activity
- Return expectations that VCs perceive per fintech business vertical
- Average return obtained by VCs from investments in fintech
- What would help increase VC investment in fintech

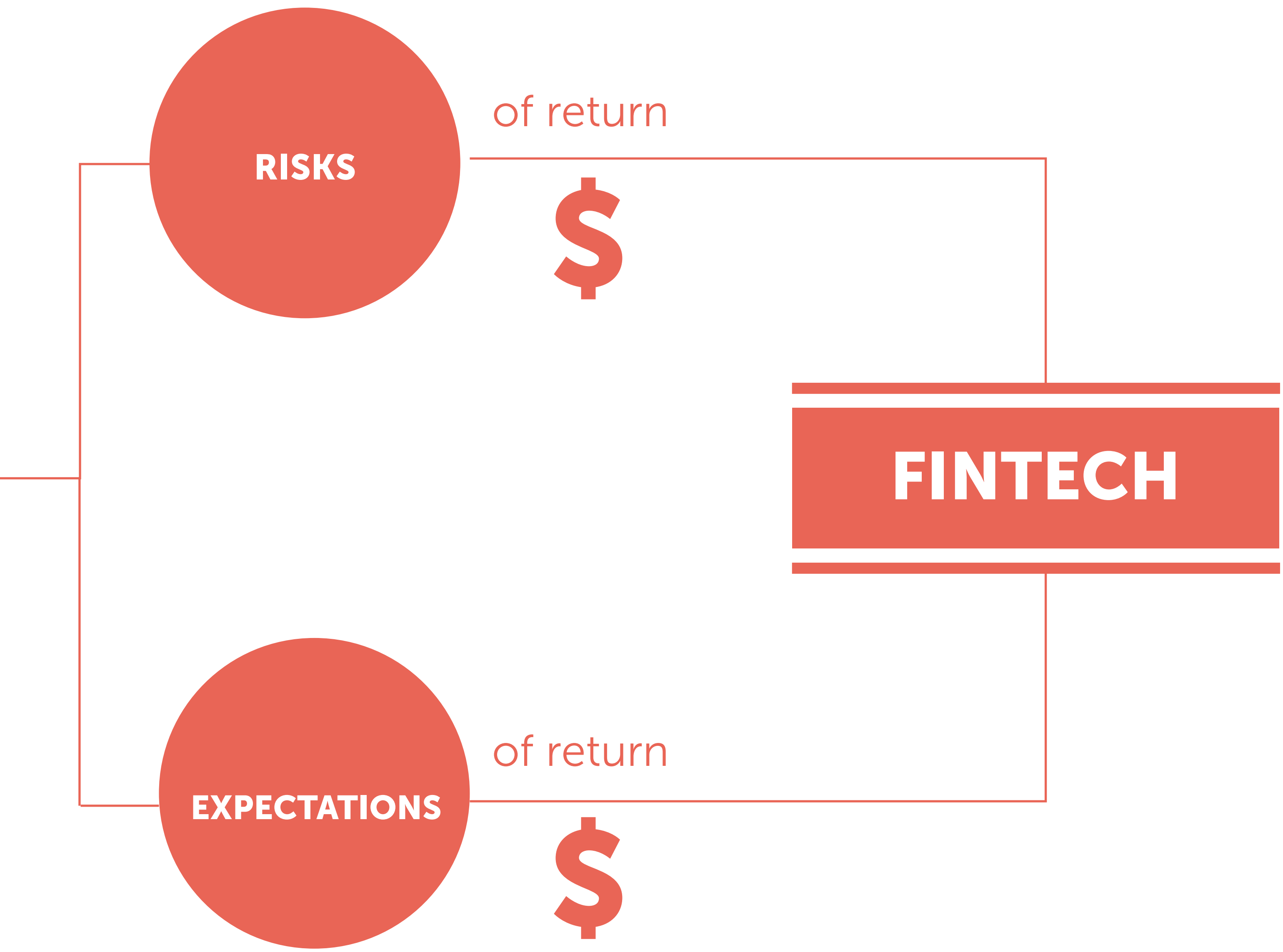
VISION OF VCs ON FINTECH ACTIVITY

This part of the diagnosis lays out the understanding and perception of the fintech activity that VCs invest in.

The group of risk investors surveyed is also predominantly young. Its members find fintech an interesting diversification alternative and believe that NBFIs getting closer to fintech companies is favorable.

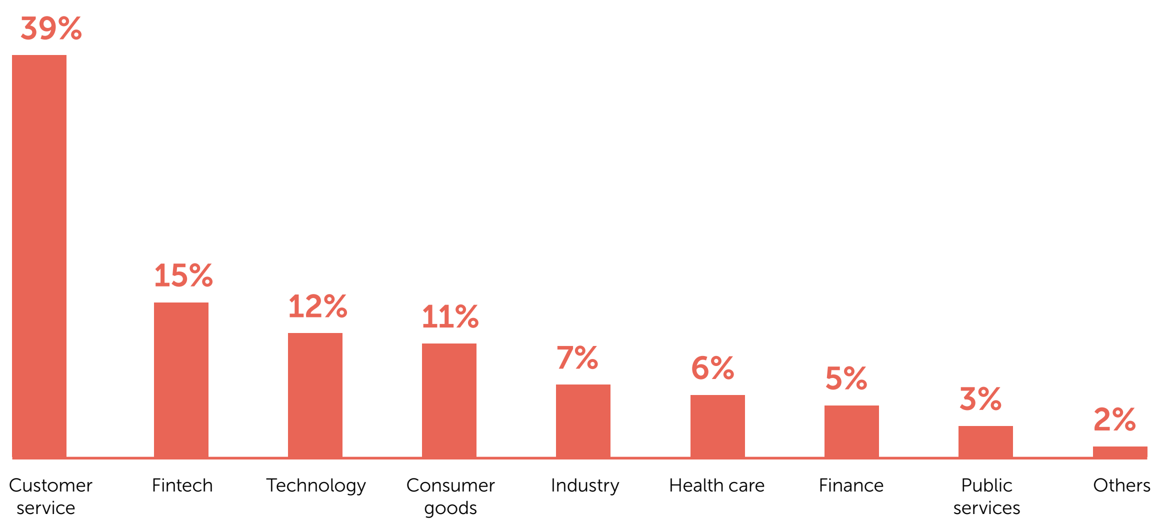
In 68% of cases, risk investors in Mexico have been operating less than five years in the country and perceive opportunities and advantages in payment methods and financial solutions for companies. Thus, VC financing sources for fintech companies focus on the most dynamic activities, i.e., payment methods and collective financing (together, 40%). However, the longer VCs have been in Mexico, the less mature they see fintech activity.

VC COMPANIES


RISKS
of return
$
FINTECH
EXPECTATIONS
of return
$

This section presents VC perspective regarding risk and their return expectations for the different fintech activities, their average investment amounts and returns, and the elements that would encourage them to increase their investment amounts in this activity.

Graph 7. VC financing per activity in Mexico in 2018



Fintech activity occupies an important part of the portfolio of investors in Mexico.

Despite the aforementioned, 18% of fintech companies indicate that they obtained foreign VC financing, and in-depth interviews revealed that risk perception and the dynamics during decision-making processes of investors outside Mexico is quicker and more adjusted to the realities of the projects.

2.3.1 PERCEIVED RISKS IN FINTECH ACTIVITY

This section reports how VCs perceive risk in fintech activity, in order to compare said perception with their expectations on return. It was surprising to see that the answers were characterized by not being correlated.

Graph 8. Activities with high risk as perceived by VCs

CRYPTOCURRENCIES	HIGH 81%
DISRUPTIVE FINANCIAL ENTITIES	HIGH 69%
CROWDFUNDING	HIGH 63%
GENERATING LOANS FOR NATURAL PERSONS	HIGH 56%

Graph 9. Activities with medium risk as perceived by VCs

INSURTECH	MEDIUM 75%
PAYMENT METHODS AND TRANSFERS	MEDIUM 69%
FINANCIAL MARKETS	MEDIUM 50%
GENERATING LOANS FOR LEGAL ENTITIES	MEDIUM 37.5%

PERSONAL FINANCE AND FINANCIAL CONSULTING	**MEDIUM 63%**
FINANCIAL SOLUTIONS FOR COMPANIES	**MEDIUM 56%**
INFRASTRUCTURE FOR FINANCIAL SERVICES	**MEDIUM 44%**

Risks perceived by VCs appear to be less in that they correspond to activities closest to traditional financial services.

2.3.2 RETURN EXPECTATIONS THAT VCs PERCEIVE PER FINTECH VERTICAL

This segment shows how capital investors perceive returns on different fintech verticals. The difference between VC perceptions of risk and return may be due to the fact that some answers were given from a national perspective and the rest, based on considerations of a more international nature, or simply, that over time their approach to investment, experience with risk, and perception of returns have changed.

Graph 10. Activities with high return expectations as perceived by VCs

DISRUPTIVE FINANCIAL ENTITIES	HIGH 81%
CRYPTOCURRENCIES	HIGH 63%
GENERATING LOANS FOR NATURAL PERSONS	HIGH 50%

Graph 11. Activities with medium return expectations as perceived by VCs

GENERATING LOANS FOR LEGAL ENTITIES	MEDIUM 56%
FINANCIAL SOLUTIONS FOR COMPANIES	MEDIUM 56%
PAYMENT METHODS AND TRANSFERS	MEDIUM 43.75%
INFRASTRUCTURE FOR FINANCIAL SERVICES	MEDIUM 44%
FINANCIAL MARKETS	MEDIUM 44%
INSURTECH	MEDIUM 50%
PERSONAL FINANCE AND FINANCIAL CONSULTING	MEDIUM 50%

Graph 12. Activities with low return expectations as perceived by VCs

CROWDFUNDING	LOW 38%

Regarding risk perception toward the different fintech activities held by VC companies, there is a contrast regarding return expectations, since they do not correlate as might be expected.

- VC points of view on returns by activity allows us to see that there might be relatively less appealing areas for them that present opportunities in the fields in which NBFIs operate.

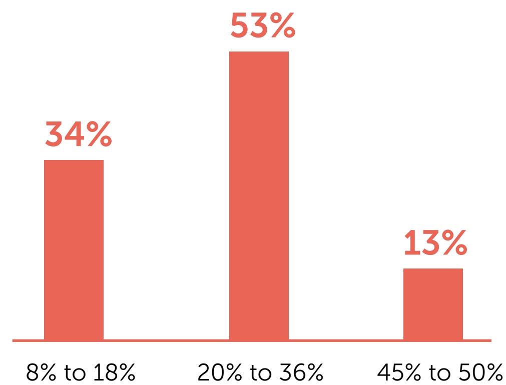
- A possible lesson stemming from these answers is that fintech activity as a whole can benefit inasmuch as it considers the diversity of financial institutions as potential actors with business opportunities.

- The importance of carrying out better risk management is key, due to the inefficiency prevailing in the traditional financial system in which low-risk creditors pay the losses generated by high-risk creditors.

2.3.3 AVERAGE RETURN OBTAINED BY VCs FROM INVESTMENTS IN FINTECH

Below are the answers given by VCs regarding returns obtained from investing in fintech.

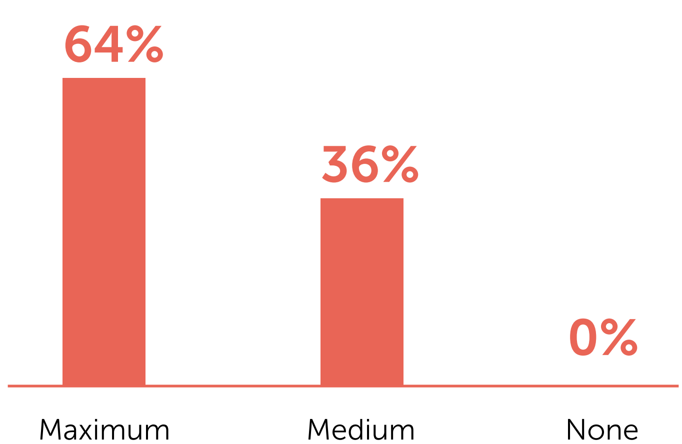
Graph 13. Average annual return per VC investment project in fintech



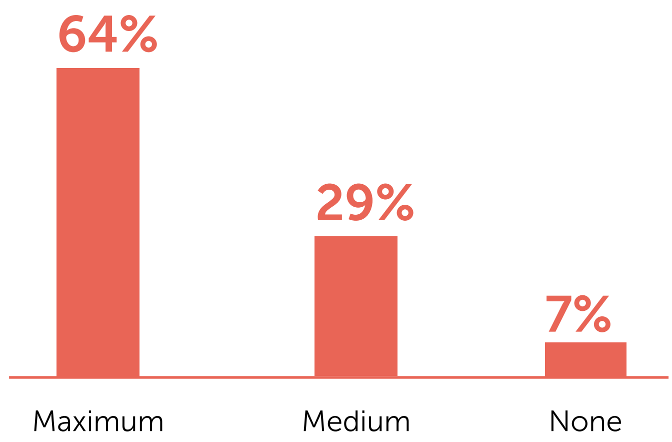
2.3.4 WHAT WOULD HELP INCREASE VC INVESTMENT IN FINTECH

Below are aspects that could encourage VCs to increase the amount invested in fintech.

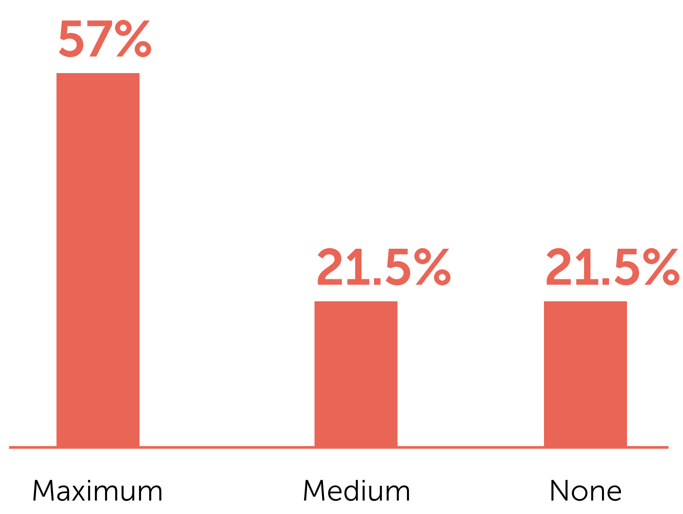
Graph 14. The importance of stability within the regulatory framework for VCs to reconsider increasing their investment in fintech



Graph 15. The importance of technological innovation at a lower cost so that VCs reconsider increasing their investment in fintech



Graph 16. The importance of contract compliance and solutions to bankruptcy and settlements so that VCs reconsider their investment in fintech



In contrast to the stability of the regulatory framework, the importance of low-cost technological innovation and the relevance of contract fulfillment and solutions in the event of insolvency, the rate of economic growth and the rate of expansion of fintech businesses represented "maximum importance" in more than 50% of the time.

2.4

INVESTMENT FOR DIGITALIZATION

- Fintech companies' experience and needs in terms of financing
- VC investments in fintech: indicators and characteristics

INVESTMENT CHARACTERISTICS FOR DIGITALIZATION

Below are results on the financial needs of fintech companies, their sources of financing, elements that they deem relevant to obtain financing, and the experience that some have had with VCs.

Access to capital in Mexico is difficult for fintech companies, according to what was expressed during in-depth surveys. These organizations (83% of those that answered) indicated that in the following two years they will seek an average of 64 million pesos in investment.

For these companies, investors are important beyond the resources they can provide, given that access to networks for development and the strategic advice they can get from these agents are equally appreciated. However, when choosing what investment to embark on, it is important for them that the funder understands the business and asks for an interest rate that fits the project's return. This is an area of opportunity for most VCs in Mexico, according to survey reports and most in-depth interviews.

ENTREPRENEURS

FINTECH COMPANIES

INVESTORS

64 M PESOS

2019 - 2020

$$$$

INVESTMENT

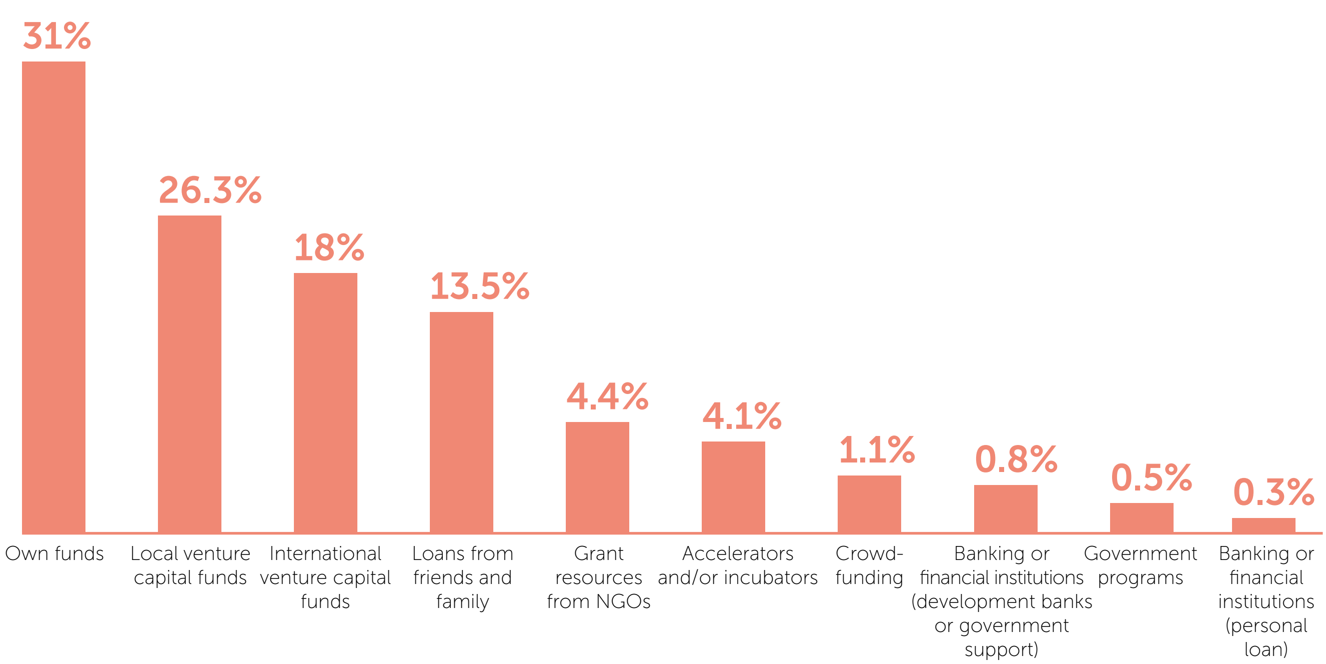
2.4.1 FINTECH COMPANIES' EXPERIENCE AND NEEDS IN TERMS OF FINANCING

This part presents the answers that reveal the experience fintech companies have with the financing they need for their growth and development. This is because financial resources are of the utmost relevance for business ventures to flourish and even –where appropriate– for partnerships to prosper. Moreover, access to investment resources has to do with opportunities for economic growth and development.

A Source of funds obtained by fintech companies

- Among fintech companies, 25% have neither received financing nor investment for their company (additional money to initial investment, regardless of the source).
- However, 75% of these companies have been invested in. The most important source of funding is still own resources and that of family and friends (45%). In second place, 44.3% gets funds from VCs, from which 30% have received resources from Mexican VCs and 18% from foreign VCs.

Graph 17. Sources of funds for fintech companies



B Relevant factors identified by fintech companies to get financing

This part of the report establishes the experience fintech ventures have had with funders, because in-depth interviews revealed opportunities to make the process of searching and obtaining capital more efficient, through a better understanding of the characteristics and needs of fintech activity by investors.

According to the perspective of fintech companies, one the most important elements to get financing is “selling your project optimally.” This aspect is even more important than venture profitability and/or traction.

95%	As an entrepreneur, knowing and letting people know your business very well
88%	Building a relationship of trust with investors
80%	Enough project “traction”/profitability

C Financing needs of fintech companies over the next two years

Given the financing conditions of fintech ventures, it was important to quantify what expectations financial technology companies have in terms of obtaining resources over the next two years. This section presents those results.

Fintech companies seeking financing over the next two years:

Yes	No
82%	**18%**

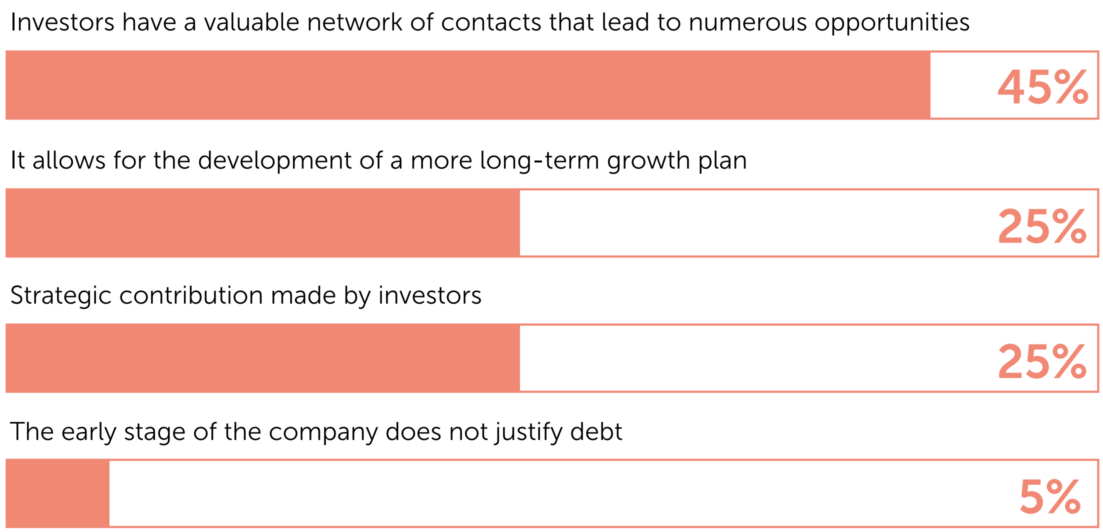
Table 3. Financing that fintech companies will seek in 2019 and 2020

Amount to obtain (MXN)	
Mean	\$66,651,429
Median	\$20,000,000
Mode	\$10,000,000
CV	179%
Standard deviation	\$119,697,473
Kurtosis	8
Skewness	3
Minimum	\$300,000
Maximum	\$500,000,000
Sum	\$2,332,800,000

For your fintech company: If you plan on seeking financing in the next two years, what do you prefer?

45%	14%	41%
Investment	Debt	Both

Graph 18. Reasons why fintech companies seek investment and not debt



- The development of fintech activity not only requires resources, but also a business environment that favors and drives project emergence and growth.

- Entrepreneurs value access to investors' networks and the recommendations they receive from them to improve the growth potential of their projects.

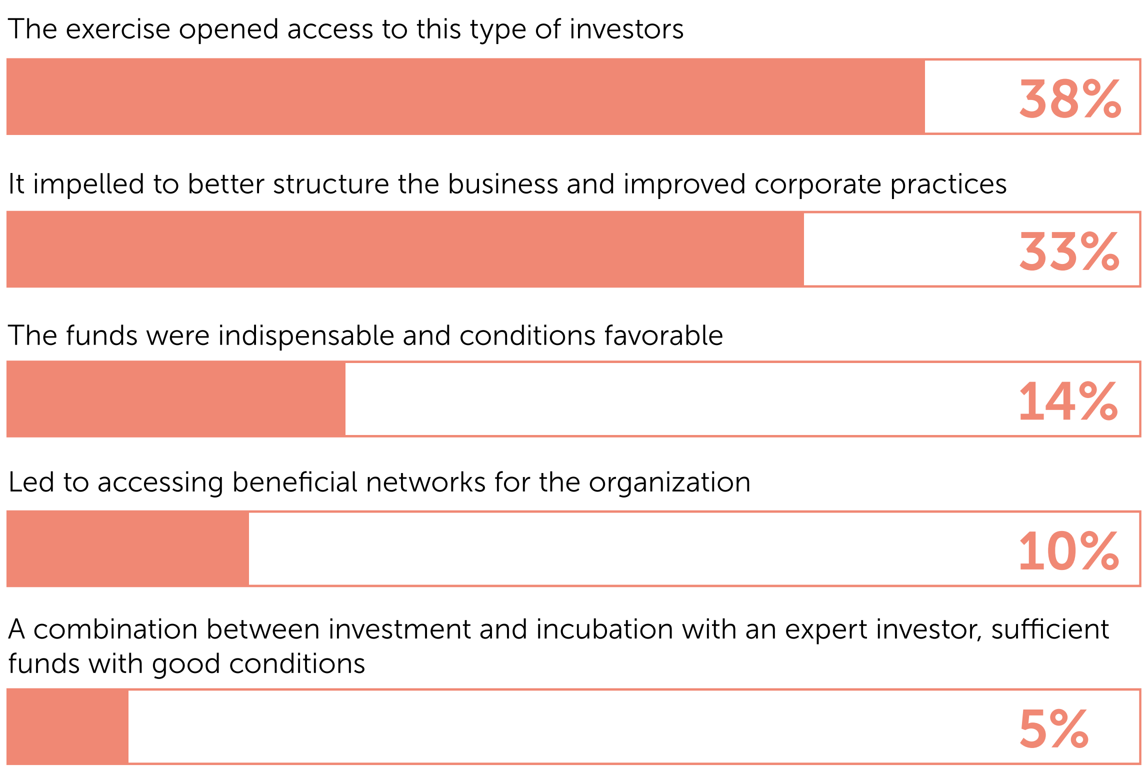
D Experience of fintech companies with VCs

This part discusses returns obtained by investors and the needs of fintech companies, as well as the experience of business ventures with this type of investors.

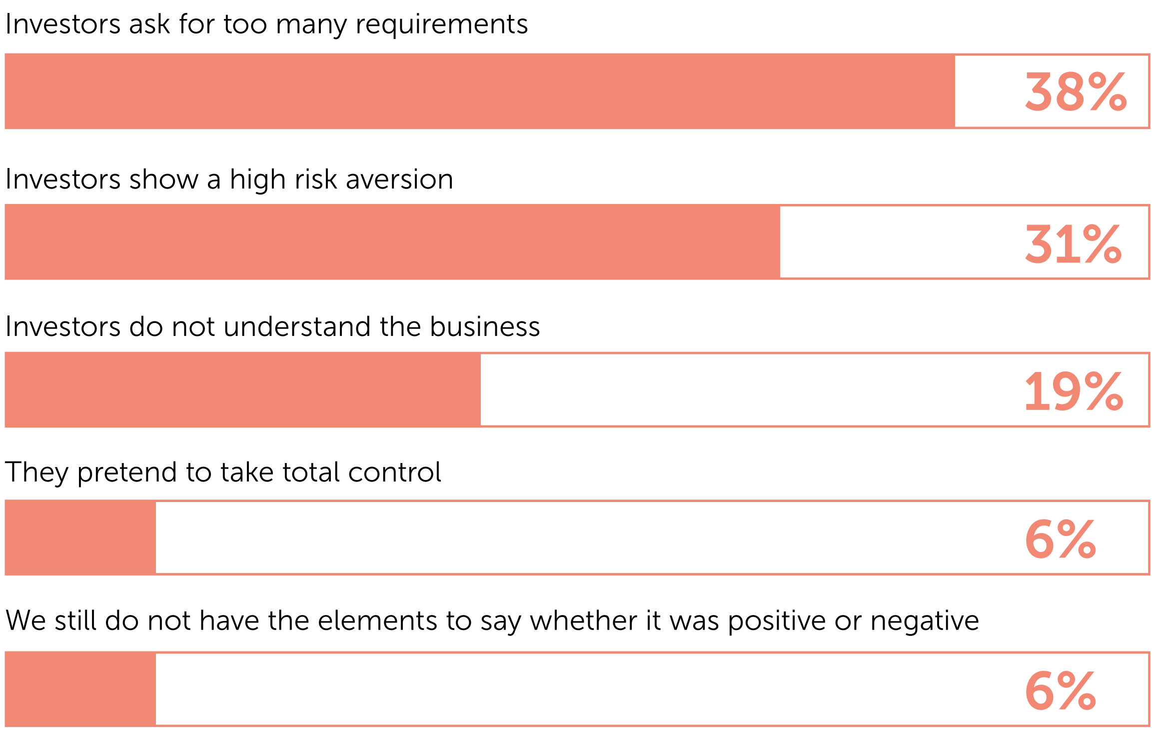
How would you rate your interaction with VC funds in Mexico?

49%	28%	15%	8%
Does not apply	Positive	Negative	Neutral

Graph 19. Reasons why the experience was positive



Graph 20. Reasons why the experience was negative



2.4.2 VC INVESTMENTS IN FINTECH: INDICATORS AND CHARACTERISTICS

Because it was considered important to make known the experience of VCs with fintech companies and their expectations in this type of relationship, here are the results that reveal the amounts invested in fintech activity by VCs and the upcoming needs of fintech companies in terms of financing.

A Average amounts invested per fintech company

Due to the existing diversity in fintech activity, this section shows the amounts that VCs say they invest in the sector and those that fintech companies claim to have received.

VC INVESTMENTS IN MEXICO IN 2017

Average VC investment ticket in fintech = **USD $1.21 MILLION**
Average VC investment ticket in fintech = **USD $1.77 MILLION**
**Source: AMEXCAP, May 2018*

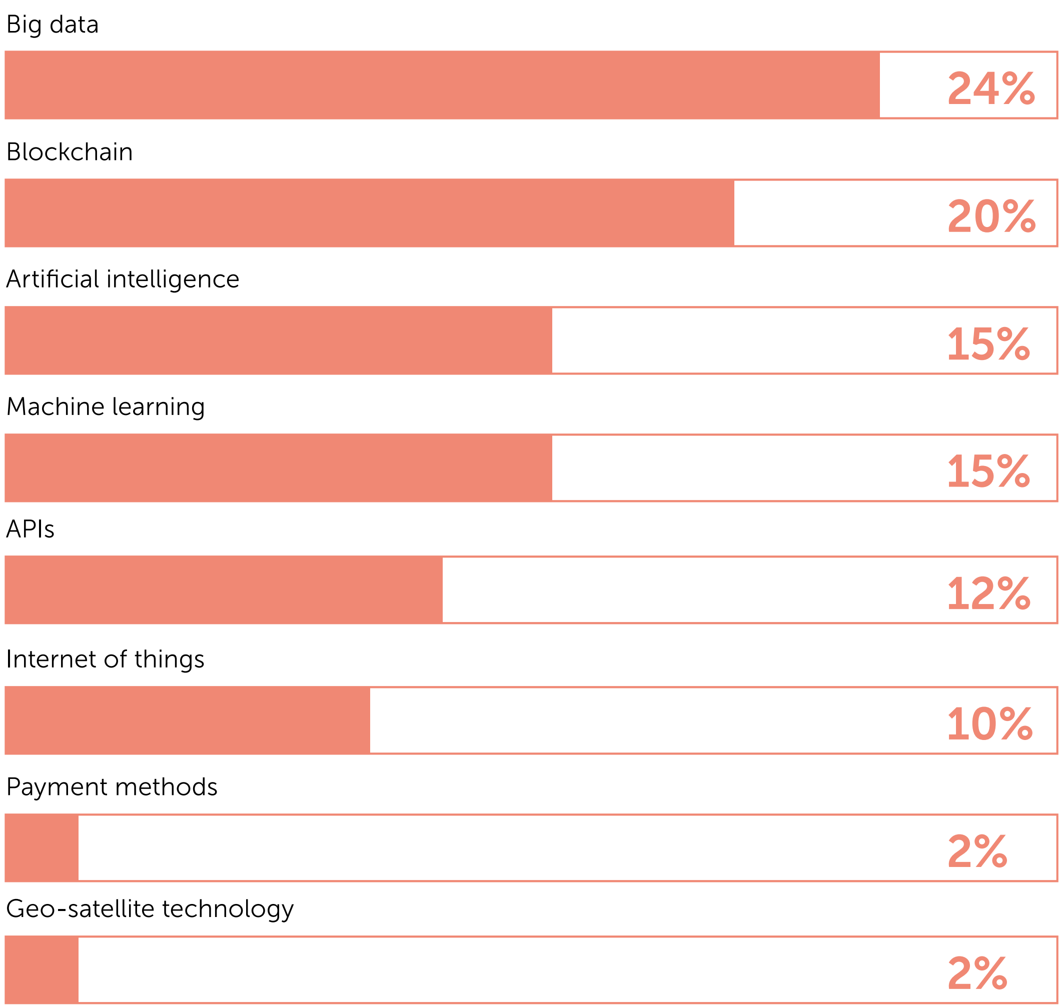
Table 4. Amounts of VC investments in fintech

Mean	$34,013,204
Median	$5,000,000
Mode	$2,000,000
Standard deviation	$69,212,746
Kurtosis	7
Skewness	3
Coefficient of variation	212%
Minimum	$300,000
Maximum	$300,000,000
Sum	$1,224,475,343

B Preferences per technology and evaluation criteria to invest in a fintech

The data presented below show VC approaches to different fintech technologies. This was asked in order to identify investor priorities –per technology– and contrast their preferences per technology and per activity vis-à-vis the risks perceived by fintech business verticals. Once again, the lack of a positive correlation between these data stands out.

Graph 21. Preferred technologies by VCs for investment



Among the most important aspects that investors appreciate and look for in their fintech projects, the element of trust appears, just like the perception of financial technology companies.

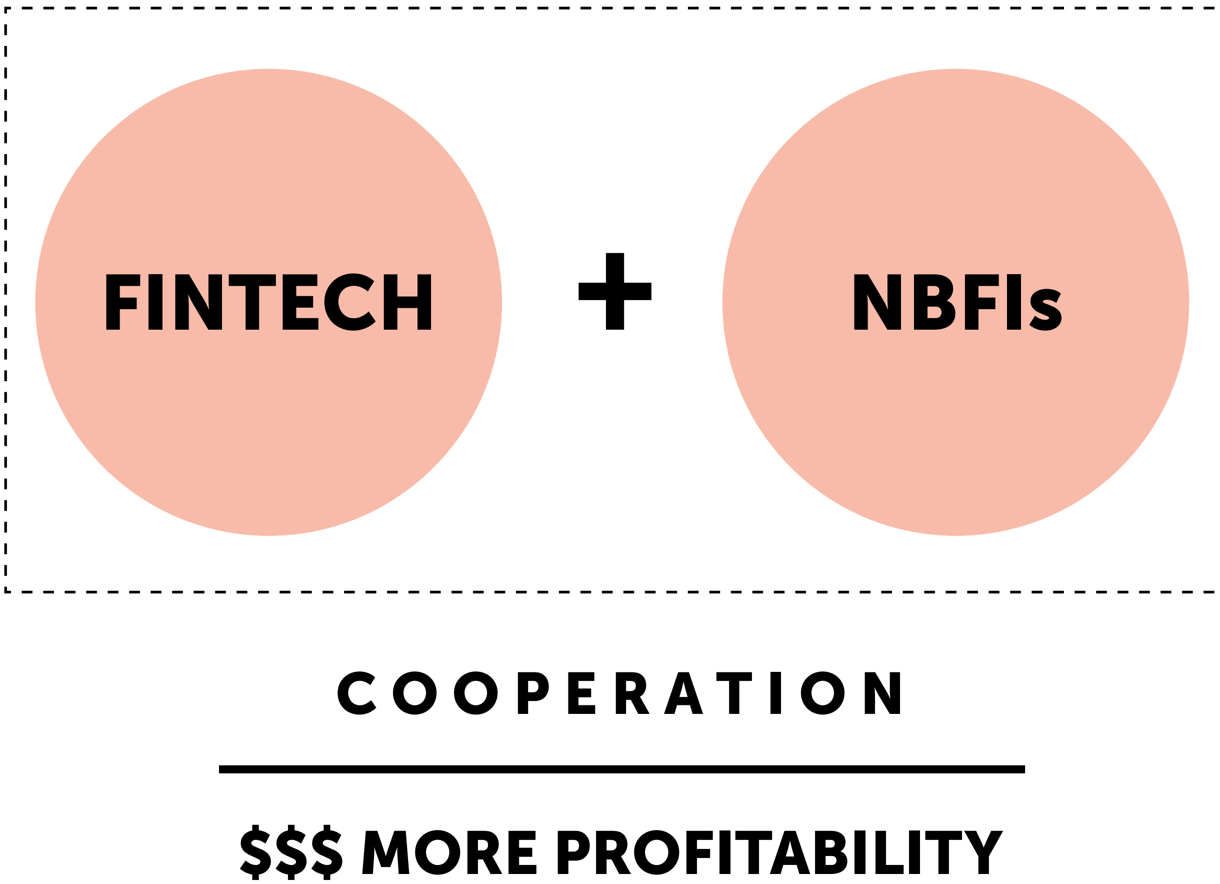
100%	To demonstrate the project "traction" and scalability
87%	Trust emerging from the relationship between the entrepreneur and their partners
80%	Character, judgment, and leadership skills of the entrepreneur

2.5 PROMOTING FINANCIAL INCLUSION

- Collaboration to leverage opportunities offered by digitalization
- Perception of fintech companies regarding opportunities in rural areas
- Feasibility to generate strategic partnerships
- Interest in generating partnerships between NBFIs and fintech companies
- NBFIs and the difficulties to increase financial inclusion
- VC perspective regarding financial inclusion

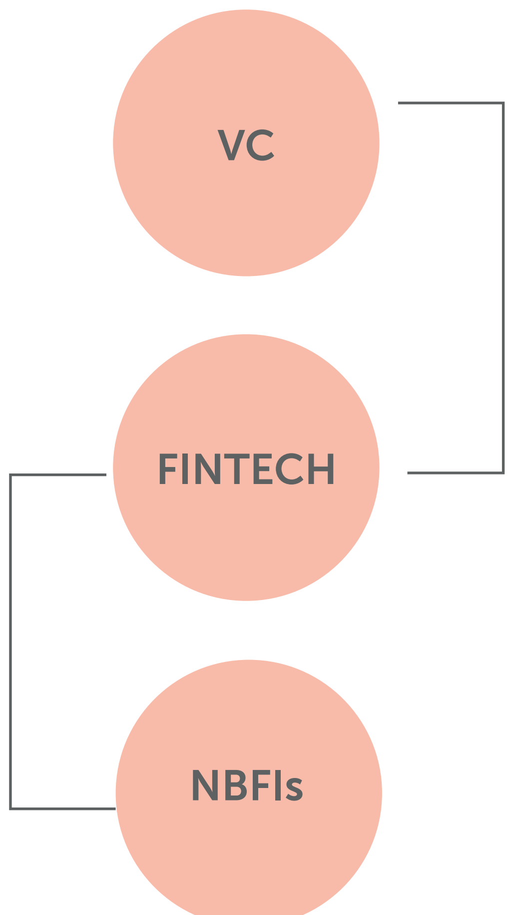
COOPERATION TO PROMOTE FINANCIAL INCLUSION

This section reports on the possibilities of partnerships between fintech companies and NBFIs, the incentives that would motivate these partnerships, and the interest or –where appropriate– lack thereof from fintech companies to venture into the rural sector and to increase financial inclusion.


FINTECH
+
NBFIs
COOPERATION
$$$ MORE PROFITABILITY

FINANCIAL INCLUSION

The characteristics of the regulatory framework, the particularities of the financial services industry in Mexico, and technological and digital infrastructure conditions are all constraints to boost the development and profitability of fintech companies and NBFIs. The best way to overcome said constraints is through cooperation and partnerships.



2.5.1 COLLABORATION TO LEVERAGE OPPORTUNITIES OFFERED BY DIGITALIZATION

In general, when looking at the profile of NBFIs that have an interest in digitalization, two relevant aspects are seen: the age of the institution and the socioeconomic level of its clients are decisive in the way in which they see the opportunities and advantages that technologies can offer them.

- The age of an institution is an important factor: The interest of NBFIs toward digitalization correlates positively and significantly with their years in operation. This leads to the assumption that older institutions, which have undergone changes –including technological ones– could have a better understanding of what is required to remain competitive and not underestimate the impact of technological progress.

- The socioeconomic level of the institutions' clients is another relevant factor: Flexibility, cost savings and the potential geographic scope of digital services offer an alternative to increase profitability in the case of institutions that work with lower-income clients.

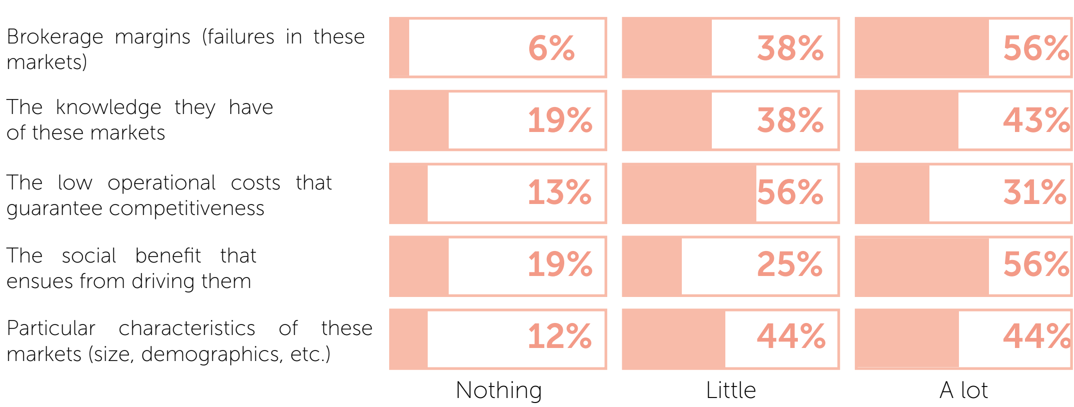
A Feasibility of cooperation for financial inclusion

NBFIs could benefit from partnerships so that expenses related to their digitalization are lower, particularly those related to the purchase and use of technology (servers, licenses, cybersecurity, etc.) and to address the problem of low availability of experts in the field (mentioned in 39% of the cases).

B Interest of fintech companies in extending their service to rural areas

Although the natural market of fintech companies is in urban areas, it was important to identify their interest in rural areas. This section presents those results.

Graph 22. Elements with a positive effect on fintech companies regarding developing their interest in rural financial inclusion



C

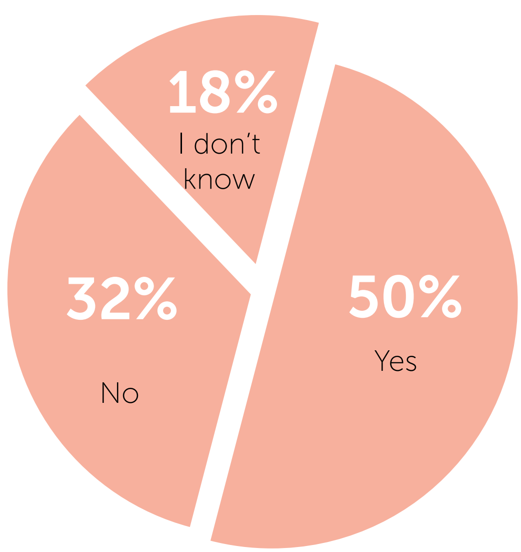
Although some NBFIs (39%) believe that customers could not afford the price for their digitalized services, it should be noted that the monthly income of their clients ranges between 6 and 12 thousand pesos (59%) –the socioeconomic segment they share with fintechs–, followed by the group that earns between 3 and 6 thousand pesos (38%). That 59% of clients has the same income level than clients of fintech companies. This income profile that both types of institutions share also represents a collaboration opportunity.

2.5.2 PERCEPTION OF FINTECH COMPANIES REGARDING OPPORTUNITIES IN RURAL AREAS

In order to reach the diagnosis objective, it was necessary to understand incentives and elements that may hinder interest of fintech companies in entering rural markets.

A Interest of fintech companies in offering services in rural areas

Although most fintech companies have shown interest in rural areas and in the population that is not financially included, one third of them do not express themselves this way. This third may answer this way because its service offer does not meet the needs of the rural population or that, to use them, people need to be in the banking system.



Graph 23. Fintech companies interested in rural markets and in the population not served by the traditional financial system

Almost 30% of fintech companies have developed at least one product to provide services to rural areas

B Reasons why fintech companies do not operate in rural areas

Some of the main reasons why fintech companies are not interested in rural markets include:

- First, 88% of fintech companies indicated that they do not operate in rural markets because of the lack of financial education and skills among clients.
- Second and third (66%), the lack of infrastructure to make deposits and withdrawals, as well as the lack of technological resources and infrastructure to access these markets are very important factors that have a negative impact on the interest of fintech companies to venture into these areas.
- In contrast, the factor most frequently indicated as the least relevant is the lack of experience and/or awareness of these markets (44% of the time).

52% In 52% of the cases, fintechs indicated that their priority, for now, is to generate income in the markets they know.

67% In 67% of the cases, fintechs indicated that the high cost of offering services in rural areas is NOT a very important factor that would change their opinion about venturing into these areas.

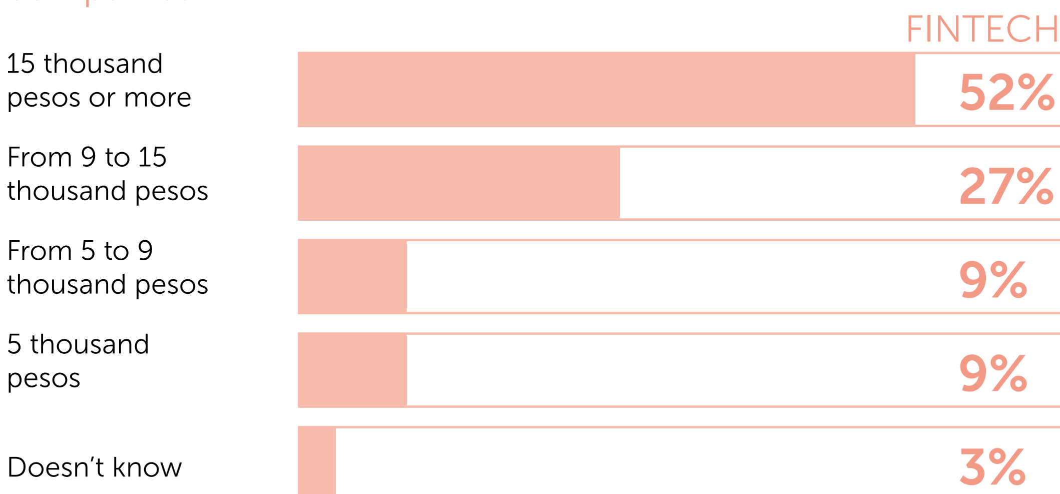
2.5.3 FEASIBILITY TO GENERATE STRATEGIC PARTNERSHIPS

Questions about strategic partnerships and opportunities to develop a digital offer among NBFIs sought to identify common areas and incentives for cooperation between these organizations.

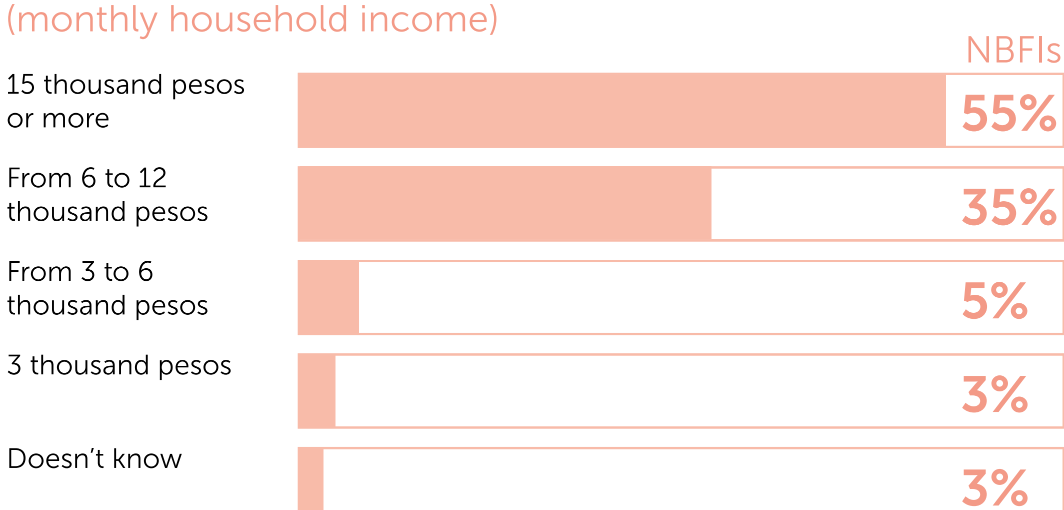
A Complementary nature of population segments served by NBFIs and fintech companies

It was deemed necessary to identify areas where the complementing of fintech companies and NBFIs is possible.

Graph 24. Socioeconomic segment mainly served by fintech companies



Graph 25. Socioeconomic segment mainly served by NBFIs (monthly household income)



2.5.4 INTEREST IN GENERATING PARTNERSHIPS BETWEEN NBFIs AND FINTECH COMPANIES

Fintech companies were asked about their interest in partnering with NBFIs and –if applicable– the experience they have had in this sense, in order to identify how feasible this is for institutions. Below are the results.

A Partnership experience

Fintech companies that showed interest in partnering with an NBFI:

No 46%
Yes 54%

NBFI opinions on whether fintech companies can be a partner to reach rural markets and/or population not financially included:

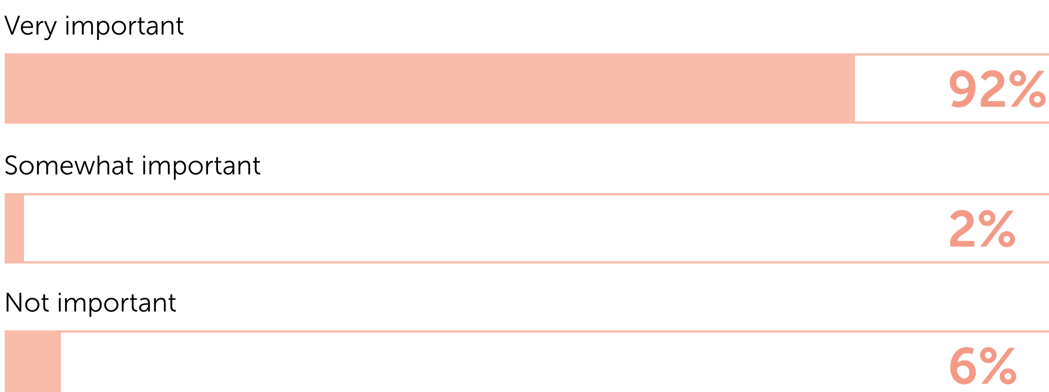
No 38%
Yes 35%
Doesn't know 27%

B Incentives to create partnerships

Regarding factors that encourage the development of partnerships in fintech companies, the findings are as follows:

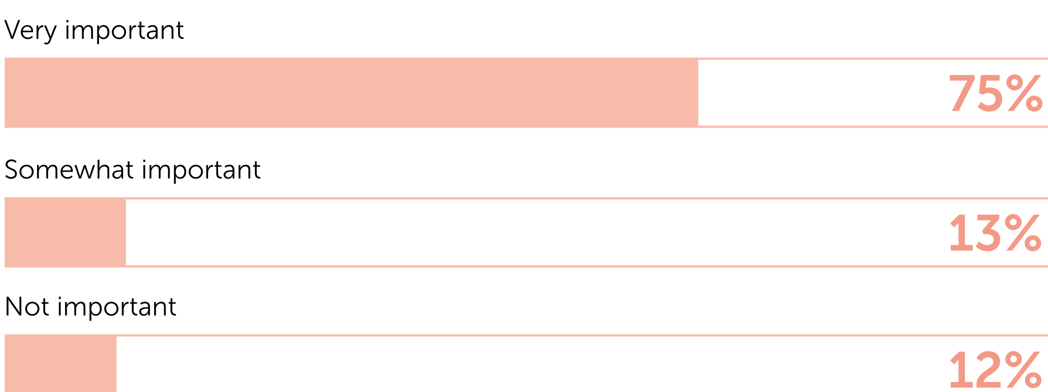
Graph 26. In the case of a strategic partnership with a financial intermediary, state –in order of importance– the reason behind your decision:

REACH A GREATER NUMBER OF CLIENTS



In contrast to NBFI criteria and motives, fintech companies favor the expansion of their market and competitiveness as incentives for partnerships.

DEVELOPING MORE COMPETITIVENESS



Short-term back-office activities in which fintech companies can work together with NBFIs include:

- Better understanding of the market and operational risks, knowing specific client needs, and designing new digital products.

- NBFIs pointed out it is important for them to optimize processes (79%), reduce costs (66%), and reach more clients with less investment (49%). Fintech companies could help them in those aspects.

In the front-end, fintech companies are experts in payment methods, financial solutions for companies, financial consultancy for natural persons and legal entities, and the granting of loans. These could improve NBFI value offer.

- It is important to keep in mind that many fintech companies meet the needs and opportunities of traders and small and medium-sized enterprises; furthermore, users of their services belong, mostly (79%), to income deciles VII and VIII (9 to more than 15 thousand pesos per month), coinciding in a segment that can be leveraged.

15% of NBFIs had partnered with a fintech company

80% are satisfied

20% said their experience was unsatisfactory because they obtained a relatively low return

- NBFIs that have benefited most from digitalization obtained results thanks to strategic vision and leadership committed to meeting their expectations.

- The perspective of leveraging opportunities through partnerships is also different. A total of 54% of fintechs report cooperation with other organizations, while only 15% of NBFIs say the same.

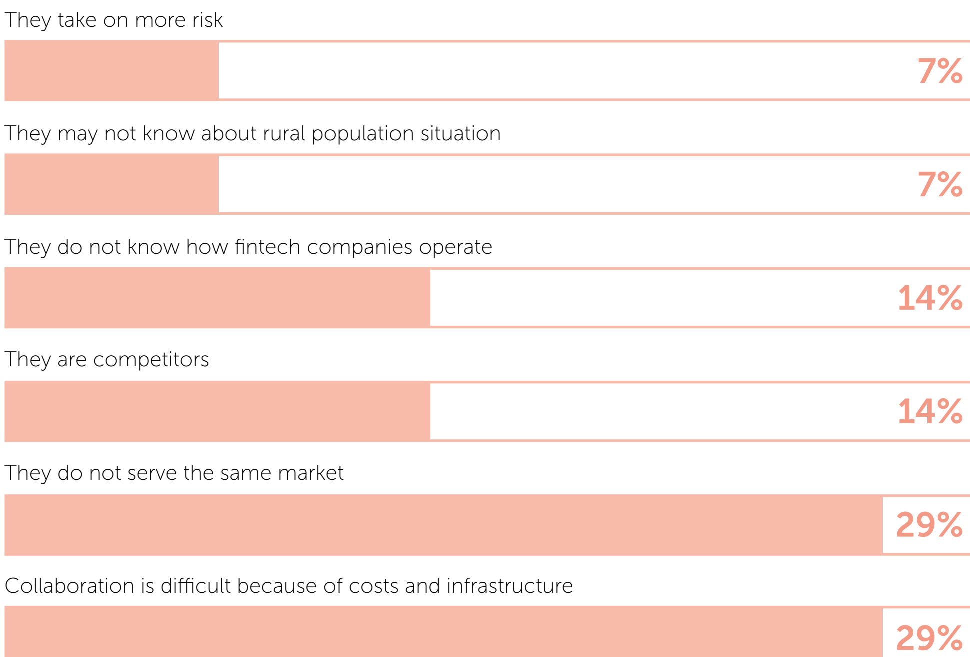
C Reasons for partnerships

- Among NBFIs, 38% DO NOT feel that fintech companies can be a good partner to reach rural markets.

- However, 35% of NBFIs do believe that fintech companies can help them serve that area.

- Finally, 27% of NBFIs say they don't know about it.

Graph 27. Reasons why NBFIs think fintech companies CANNOT be good partners



- NBFIs that are interested in digitalization but have not yet started this process pointed out they could achieve it through partnerships.

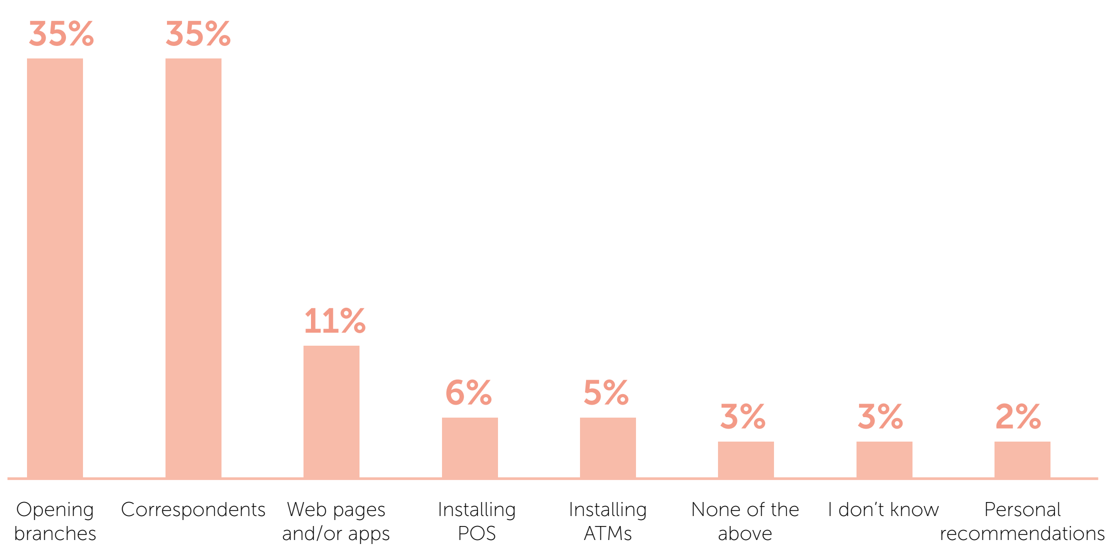
2.5.5 NBFIs AND THE DIFFICULTIES TO INCREASE FINANCIAL INCLUSION

There is a big opportunity for NBFIs to deepen their understanding of both digitalization and the possibilities of improving their services through digital resources and, of course, regarding the opportunities that fintech companies offer these institutions.

A Obstacles NBFIs face in increasing inclusion

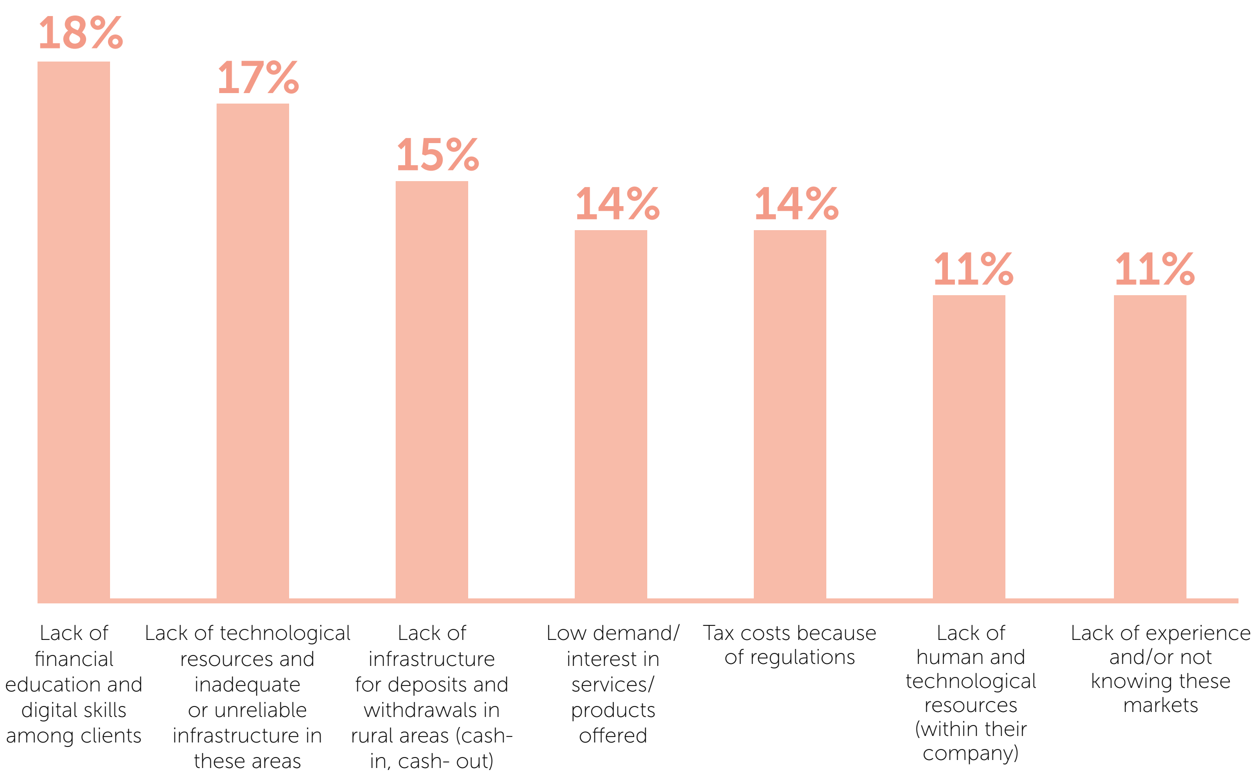
The main obstacles NBFIs face with respect to financial inclusion are presented below. The objective is to resolve these hindrances with the opportunities that digitalization offers and with aspects that can favor partnerships with fintech companies.

Graph 28. Preferred channels for NBFIs to expand their services to rural areas



The lack of infrastructure for deposits and withdrawals (cash-in and cash-out), as well as a lack of technological resources and inadequate infrastructure are –as a whole– the main obstacles for increasing financial inclusion.

Graph 29. Main hindrances to serve rural or non-financially included markets



2.5.6 VC PERSPECTIVE REGARDING FINANCIAL INCLUSION

This section presents answers given by VCs regarding financial inclusion. The importance of this information lies in pointing out what additional incentives there can be for fintech companies that wish to get financing from VCs.

A Interest and perception

An important cooperation incentive for VCs is that investors appreciate joint efforts.

Is investing in companies whose goal is the financial inclusion part of your investment philosophy?

Yes 79%
No 21%

Does a startup partnered with a financial intermediary have greater possibilities of getting financing from VCs?

Yes 80%
No 20%

The possibility of improving access to financial resources in an environment that strongly fights for them is another reason for seeking collaboration.

In sum, incentives revealed by fintech companies and NBFIs are likely to be taken care of strategically by the counterparts involved and, with that, benefits would be greater than to pursue initiatives unilaterally and alone. The role of investors is extremely important in this context and it would be good to explore how to further promote it.

2.6 ANSWERS TO THE REPORT'S QUESTIONS

This section presents the questions that were formulated to meet this report's objective, each of them are answered, and it ends with the elements that justify the achieving of the diagnosis objective.

2.6.1 FINTECH ACTIVITY IN MEXICO

Questions regarding this and their corresponding answers, based on survey results, include:

What is the development state of the fintech industry in Mexico? What opportunities and challenges does it pose for it, NBFIs, and VCs?

- There are different levels of development and penetration of fintech activity. There are still external factors and specific to the activity of fintech companies to be overcome, in order to favor the consolidation of a financial technology industry in the country.

- Payment methods and loans are dynamic activities that respond to market incentives and needs deriving from the financial industry.

- Payment methods are, to a large extent, a support service to the banking industry and contribute to lower transaction costs of the public when making settlements.

- On the other hand, the financing needs of people and organizations and the advantages that digitalization offers to make some of these loan activities easier, cheaper, and more secure explain the levels of demand for collective loans, loans to legal entities, and loans to natural persons.

- Likewise, the rise of collective loans emphasizes not only the unmet need for financing, but also the opportunity for the financial sector in Mexico to properly manage risk, not transferring inefficiencies of the bad to the good creditors, but observing a principle of reciprocity similar to the one observed in practice in peer to peer lending.

- The previous point is also very important given the differences between lending and borrowing interest rates (party asset and liable rates) and the need to increase savings.

In another –smaller– group, there are companies whose value offer is based on financial technologies to solve tax/administrative/financial needs of MSMEs.

- Companies that offer solutions to MSMEs provide support through infrastructure and efficiency in process management.
- In other categories, companies that provide banking and/or comparative information services with respect to the insurance offer, as well as those that provide investment consultancy, those that offer transactions with virtual assets, and those that undertake asset management, serve segments of the population with the profile whose socioeconomic characteristics determine their preference for this value offer.
- If companies based on financial technology are closely analyzed, as indicated by VCs, there is still great potential for fintech activity to reach a degree of development that allows its stable, efficient, and full capacity operation in Mexico.
- In activities with the highest added value, there is still an opportunity to expand and deepen the scope of financial technologies in favor of financial inclusion and the development of economic competitiveness.
- Technologies such as artificial intelligence and blockchain or the Internet of Things are not the most common among fintech companies in Mexico.

How do some support elements work for this activity, such as capital resources and consultancy? Are these enough for fintech companies to become a relevant player in the digitalization process of financial services in the country?

- The context in which these business ventures come about and develop –due to the difficulties they face and the innovative opportunities that some of the projects represent– attracts incubators and accelerators and makes contributions such as recommendations, consultancy, relations, and access to networks particularly appreciated, as is the case for the added value offered by VCs.

- Access to capital is difficult in Mexico; many companies continue to be financed through savings from entrepreneurs or support from friends and family. However, more dynamic activities are being financed and there is still an opportunity to expand fintech companies' development. We highlight that, especially for new business ventures, access to networks and the value of investors' strategic advice are appreciated.

- Also, notwithstanding, it was pointed out that some investors' conditions, requirements, and understanding of the business and its associated risk make entrepreneurs look for other sources of financing, even outside the country.

- VCs deem favorable and as a factor that would increase the probability of financing for startups the fact that a fintech company partners with an NBFI, according to answers in 80% of the cases. In this context, a thorough evaluation of opportunities offered by NBFI-fintech partnerships, including a possibility to diversify the funding sources, is appropriate.

2.6.2 ROUTES FOR COLLABORATIONS AND PARTNERSHIPS

Questions included:

Do financial intermediaries believe they can complement their abilities through strategic partnerships to better leverage opportunities offered by digitalization?

- Most NBFIs and fintech companies do not clearly see the wide array of opportunities a partnership can offer.
- It is still clear that the NBFIs generally have a growing interest in the scope of recent technologies.
- However, the potential to improve commercial efficiency and specially to increase financial inclusion with digital tools, is still unexplored territory.
- Some NBFIs see partnerships –in most cases– as a way to face some challenges.
- The possibility of partnering with financial technology companies is predominantly seen as an option to diversify their resources and expand their market.
- Few NBFIs clearly see the potential of financial technologies to improve their value offer.
- Regarding the rural sector, not only is it neglected in terms of loans, but also in terms of savings and investment products. Collaboration with fintech companies can help improve the service offer not only with loans, but also savings products, elements for better risk management and, consequently, better performance results for stakeholders.

What are the most relevant areas (market expansion, cost reduction, regulatory compliance, etc.) for a possible collaboration (NBFI-fintech) that can favor growth and leverage new business opportunities?

- Some fintech companies (54%) and some NBFIs (23%) did show willingness and interest in partnering and exploring possibilities for mutual benefit.
- A partnership would facilitate offering innovative alternatives to users, expanding markets, and designing new products with the purpose of increasing their growth potential and reducing costs.

NBFIs pointed out the following areas of opportunity:

- Improve services offered
- Improve abilities on the demand side through financial consultancy
- Create new products based on better risk and customer knowledge
- Improve commercial activity
- Increase sales through using different resources for the promotion and placement of loans and even through correspondent development
- Make compliance of regulatory standards more efficient

Fintech companies showed interest in financial inclusion and some have tried venturing into these spheres. A partnership would enable them to:

- Diversify their activity and resources
- Improve their terms of access to financing
- Leverage margins seen in these areas
- Perfect the experience that some of these companies have already had with rural users and the population that is not financially included
- Discover more about the particularities of these markets
- Become familiar with risks in these areas, together with organizations that work with them

2.6.3 THE AIM OF INCREASING FINANCIAL INCLUSION THROUGH DIGITALIZATION

The main objective of this report was to identify existing opportunities and needs that, if satisfactorily resolved, would allow for the use of digitalization to increase financial inclusion and improve financial services, mainly in rural areas and for people who do not have access to them. The findings provide elements to think the following, such as:

- NBFIs have progressed in their digitalization in a differentiated way. As a group, these organizations seem to be divided in two: those who have started the process (47%) and those who have not yet started (47%). Very few have no interest in digitalization (6%).
- Most obstacles that NBFIs point out as important to serve the rural population could be overcome with financial technology tools.
- NBFIs could benefit more from digitalization if they updated their perspective regarding it and if they linked advantages offered by financial institutions with their competitiveness growing.
- Some NBFIs, due to their institutional characteristics, can be an option for fintech companies to diversify their revenue through strategic partnerships and to improve their access to financing.
- The main digitalization benefits reported by NBFIs are –for now– confined to efficiency.
- The most digitalized institutions, perhaps because of the competition they face, are SOFOMEs (multiple-purpose financial institutions). However, efforts undertaken around digitalization go beyond competition and their objective is to get to better know their user audience –according to the type of rural or urban population and their income level.
- The little digitalization progress of some institutions and market conditions seen with respect to the lack of abilities to leverage digitalization are added to the operational characteristics of the telecommunications and information technology industries, which contribute to perceiving high –cyber, market, and technology– risks that hinder digitalization progress among NBFIs.

3

RECOMMENDATIONS

3 RECOMMENDATIONS

The following recommendations derive from the diagnosis and are grouped according to the main stakeholders involved in this report.

The emphasis of this diagnosis is practical and purposeful, so that the use of financial technologies can increase financial inclusion, mainly in rural areas.

The digitalization of financial intermediation operations allows the expression of creativity in order to generate different options and improve the supply of financial services both in a traditional organization and in a venture whose value offer is fundamental and totally digital.

Understanding the financial system through a digital vision thereof is of utmost importance to drive growth in Mexico, making financial processes more efficient to better competitiveness.

3.1 RECOMMENDATIONS FOR NBFIs

From an operational perspective, NBFIs are advised to undertake a cost-benefit analysis in order to establish the convenience of their digital development approach. Regarding order and method, NBFIs are recommended to evaluate their technical and financial capacity in order to validate the scope and the practical and functional feasibility of their plan. Regarding the strategic angle, thorough knowledge of the characteristics and conditions of both the market and the potential strategic partner is essential.

It is necessary to validate how pertinent NBFIs' vision is, considering that most of those that have succeeded in their attempts began their digitalization "inside out," that is, they prioritized the digitalization of their "key" internal processes to improve efficiency. Likewise, NBFIs that enjoyed positive results in their digitalization strategies correctly evaluated their central information system (or core system) to determine the potential, scope, and functionality of introducing financial technologies. Carrying out such an assessment is highly recommended before starting digitalization.

We recommend digitalization be promoted from NBFI guilds and partnerships. These initiatives can help intermediaries better cope with risks, acquire services and/or develop digital products at a lower cost, and even improve competition standards based on guild good practices to develop their digital services in an optimal manner.

Likewise, it is deemed valuable for NBFIs to have more in-depth knowledge about activities of companies based on financial technology and about financial technologies themselves. For example, NBFIs can learn from the approach taken by certain fintech companies in order to expand their coverage and update and improve their service offer and risk management.

For NBFIs to leverage digitalization, they must:

- Specify measurable and gradually attainable objectives
- Have a strategically focused vision on leveraging market opportunities, which considers both the context and the characteristics of these institutions
- Define and assign a budget and specify scopes and practical methods depending on the specificities of organizations

3.2 RECOMMENDATIONS FOR FINTECH COMPANIES

The state of this activity reflects the characteristics of the national financial industry and the conditions of the economy. It would be desirable for financial technology companies to more openly share information about their operations so a public policy could be designed that favors greater market penetration of companies that contribute most to economic growth and financial education.

For fintech activity, it would be desirable to develop a guild identity that would allow these companies to support each other and share information for the benefit of their businesses during the decision-making processes to which they are subject. We are going through a one-of-a-kind moment in this activity and the opportunities that this represents should be seized, since they are part of the financial system, but the depth of their activity and coverage is not comparable to that of other actors within the same system. Thus, we recommended creating indicators that are public and allow the better understanding of progress in this activity.

More in-depth knowledge of the non-bank financial sector could also benefit fintech companies through opportunities that are not always obvious. Promoting good practices that protect their users and look after their interests would also help these agents stand out from other activities in the financial industry and contribute to projecting the image that their services present possibilities of shared benefits.

3.3 RECOMMENDATIONS FOR VCs

A deeper and thorough knowledge of the market fintech companies serve and of these organizations' operations would contribute to a deeper and more practical understanding thereof. Promoting partnerships to reduce investment risks would be advisable so that the valuable participation of investors translates into an even more robust development of this sector.

Strategies to boost fintech activity are at a crucial moment for its growth in Mexico, and route changes could be more difficult than timely strategic planning. The importance of this moment and the increasingly transversely with which financial services operate indicate that decisions of a traditional nature are —perhaps— the ones that make it harder to leverage new opportunities or drive innovation.

3.4 GENERAL RECOMMENDATIONS

Fintech project returns require a more comprehensive approach to this activity from the public policy standpoint, identifying areas with greatest value for society and which have the most potential to contribute to strategically promote innovation and development in these activities.

Both in-depth interviews and the different survey answers indicate that leveraging the benefits of digitalization is seen as hindered by the characteristics of income distribution.

It is important to emphasize that this diagnosis did not focus on the so-called Fintech Law. Nevertheless, it is considered of utmost importance to evaluate the impact of the approach used to address the phenomenon in this economic act.

Regarding this, it would be highly desirable, among other things, to harmonize the National Financial Inclusion Strategy, the National Financial Inclusion Policy, and the National Digital Strategy. The foregoing, particularly in relation to the following two of the main aspects of the National Financial Inclusion Policy: 3. Building financial infrastructure in underserved areas and 4. Increasing the supply and use of financial services for increased inclusion. Since rural areas do not have a big bank infrastructure, it is difficult for financial technology companies to expand their service coverage there. In turn, NBFIs would benefit from rules that make a more competitive services offer feasible in order to diversify what already exists.

It would also be good to have a definition and classification of fintech activity that identifies —in order to encourage— activities that best meet the needs of the population and those with more potential and effects on economic growth and development.

It would also be worth evaluating the effect on regulations as a result of the USMCA (United States-Mexico-Canada Agreement) negotiation, what consequences are expected regarding payment methods and, primarily, how to make benefits that may derive from greater liberalization effectively reach those who most need them.

On the other hand, in order to increase financial inclusion in rural areas —according to the diagnosis— the following opportunities are identified, which we grouped, first, in a general way, and then on the supply and demand side:

In general: financial inclusion could benefit from a more transversal method and with interinstitutional coordination, both methodical in design and execution.

Opportunities presented in the field of education, if properly addressed, would facilitate the use of digitalization benefits. Optional early-age programming classes would be convenient.

Both fintech companies and NBFIs point out that the lack of professionals with the necessary skills and abilities and the lack of digital skills among their clients and even among their suppliers are an obstacle to leveraging digitalization benefits.

The main challenges that NBFIs face in digitalization are the lack of government support, cyber risk, costs related to acquisition and use of technology, and the lack of digital skills and abilities of their clients and suppliers.

It would be beneficial to assess the usefulness of government funding that focuses on projects that involve partnerships or on providing technical assistance and/or training —based on certain indicators and institutional characteristics of coverage— for the rural population, efficiency, and productivity.

Some of these needs are considered both in the National Financial Inclusion Strategy and the National Digital Strategy.

The importance of making access to resources more efficient is strategic for the development of this activity and it is still necessary to address it.

Identifying and managing risk in a more efficient way based on financial technology tools is of the utmost relevance, due to the differences between lending and borrowing interest rates (party asset and liable rates) that prevail in the system and given the example offered by collective loans to optimize returns in this area.

We recommend identifying and promoting the support services needed in the market in which fintech companies develop in order to simultaneously increase financial inclusion and help improve their profitability possibilities.

Another fundamental aspect is the connectivity and the necessary infrastructure –mainly in rural areas– with a quality that ensures confidence to promote projects and carry out the necessary transactions with the required security, guaranteeing optimum efficiency for the population with less resources.

ON THE SUPPLY SIDE

Encouraging competition in the financial, technology, and telecommunications industries, so that terms of access improve and there are more favorable conditions for the development of digitalization in financial services.

1. Promoting digitalization training programs for professionals who currently work in NBFIs.

2. Ensuring access to competitive resources and the existence of reliable and effective information centers on client loan history are aspects that would contribute to a favorable environment for financial activity to leverage the digital era. Another issue that could be important is the design of a strategy aimed at the digitalization of MSMEs as part of the strengthening of an "environment" that promotes the digitalization of financial services. The development of networks and dynamics would allow the population to use technology to improve general exchange terms at affordable costs, favoring the possibility of raising living standards.

ON THE DEMAND SIDE

1. Promoting —collectively— practical knowledge of new technologies, in a functional way for users with more needs, would make them leverage these technologies more.

2. As these fintech services are extended, users should develop skills to search and identify information that helps them make decisions based on the benefits they seek when using these services. The promotion of such skills will need transparent information on how to exercise and make their rights as users effective.

The opportunity for economic growth to be promoted from the public policy field with a digital strategic focus continues. It is worth highlighting that this will not be solved by the market alone.

Digitalization and financial technologies offer an exceptional opportunity to generate widespread access to innovation —for the use and practice of technology benefits— and strengthen access to capital and business networks. To achieve the aforementioned, one of the biggest challenges is to promote optimal conditions for the strengthening of support services to boost the digitalization of financial services (banking, technology, telecommunications, education, government cooperation, etc.).

Last, a unique opportunity to strengthen the financial offer in favor of people not yet financially included is seen in technological innovation. However, it is considered that this opportunity should be seized such as that the benefits enhance the well-being of people and economic agents in general, particularly ensuring that the development of the skills and abilities required to leverage technology does not become a factor that drives the increase of economic and social inequalities in the country.


83.5
90.2

4

APPENDICES

4.1 FUTURE OUTLOOK

This analysis faced limitations in terms of resources, mainly time-wise. Research on how to most efficiently strengthen skills on the demand side and for fintech service suppliers needs to continue and go in depth. Elements that should be further analyzed include:

1. What financial technologies have a better result when promoting both education and financial inclusion, in order to propose a set of tools that can strategically be used by NBFIs and fintech companies themselves to improve the economic conditions of those who use their services.

2. Whether market failures have provided opportunities for new actors that generate value or if they take away income from ventures that are struggling to be born and survive.

3. How to improve risk management in order to have a positive impact on the efficient performance of the financial system and reverse the bad practice of using a wide range of lending and borrowing interest rates (party asset and liable rates) and transferring risk costs from bad creditors to good users of financial services.

4. We recommend making progress in the development of benchmark indicators for fintech activity and disseminating them. Also, researching what companies based on financial technology close down or stop operating and identifying the main causes behind these situations, as well as the causes that favor other companies' permanence in the market. The point above distinguishes between organizations that operate with digital media and institutions whose value offer is based on financial technologies.

5. The reason behind answers given by VCs and NBFIs regarding their way of understanding market incentives and growth opportunities offered.

6. Regarding the previous point, understanding what specific skills and abilities need to be developed so that both demand and supply respond more efficiently to the signals of different economic agents. Survey answers show that the market dynamics of activities evaluated reveal distortions in the resource allocation process.

Understanding the reason for so many market failures and assessing what elements can facilitate decisions that lead to raising the level of well-being of those who participate in these dynamics.

7. An international comparative approach that provides perspective to best leverage every opportunity.

8. The economic impact that both the telecommunications and banking industry –particularly due to the characteristics of their operations in Mexico– have had on digitalization, in the development of fintech activity, and the use of technology in financial inclusion and in economic equality.

9. Last, establishing the most effective means to leverage these opportunities from public policies that —truly— respond to the needs of the financially excluded population.

4.2 METHODOLOGY

This report is prospective, quantitative, exploratory, and of a social nature.

Based on its purpose, the report uses a basic methodology, because the ensuing diagnosis is related to fintech activity and digitalization regarding the financial inclusion of the rural sector. However, it offers a practical projection in that questions answered are intended to favorably modify the environment it analyzes.

Due to its temporal scope, its methodology is synchronous, that is, it aims to find out about the current condition of the activity in question. Because of its depth, it proposes that, through collaboration and partnerships, fintech activity and digitalization in non-bank financial intermediaries improve in terms of efficiency, growth, quality, and income.

It also has a prospective nature that focuses on four aspects:

1) Identifying opportunities for digitalization and financial technologies
2) Assessing the feasibility of creating strategic partnerships between fintech companies and non-bank financial intermediaries
3) Identifying elements for fintech ventures to have —from the design of public policy— better development conditions
4) Helping improve financial inclusion through a more competitive financial services offer

Last, it is social, quantitative, and of a primary nature, because the report is the result of a survey aimed at interpreting the situation and behavior of these.

The procedure supporting the diagnosis is structured in two main phases:

- In the first phase —exploratory—, interviews were conducted to validate the orientation of the report and specify the strategic nature of the information sought through surveys and databases. We contacted stakeholders —public and private institutions— that would contribute to the diagnosis. During the enquiries, we presented the objective and structure of the diagnosis for information and feedback purposes, using a method to actively involve those stakeholders.

- In the second stage —quantitative and proactive research— direct electronic surveys were applied to managers of organizations to identify how to leverage the benefits of digitalization in favor of rural inclusion; particularly, the main

> stakeholders in Mexico's fintech activity were consulted, with an approach aimed at establishing what is needed to strengthen the abilities of those who need to benefit from opportunities offered by digitalization and financial technologies, to close inequality gaps and generate an environment conducive to the growth of the Mexican economy.

This survey was conducted in three questionnaires, applied to fintech companies, because they play a central role in the purpose of this diagnosis, NBFIs, because they are the core of the work conducted by Sparkassenstiftung, and VCs, because their participation as funders to increase both access to resources by fintech entrepreneurs and to expand the entrepreneur base for the country's economic development is of great strategic importance. The general characteristics of each group and how we approached them methodologically.

FINTECH

Regarding fintech companies, there are no figures on the joint activity of these organizations. The survey sought to obtain benchmark indicators, but it did not obtain enough answers to get a representative sample.

We designed the survey and monitored answers in collaboration with the Fintech Association of Mexico (AFM). The questionnaire applied to fintech companies has the following five main sections:

1) Basic information about the company that answers anonymously
2) Challenges that the company faces in terms of technological and financial infrastructure, human resources, etc.
3) Growth opportunities
4) Access to financing
5) Scope of activity (obstacles, interest, experience) in relation to financial inclusion

The questions also took into consideration the concerns and approach evaluated in other studies conducted by international organizations and topics of interest related to this activity at a national level.

The survey was conducted with the collaboration of the AFM and was directed not only to its partners, but to a database that was built independently for this purpose, with the participation of organizations providing services for fintech companies. To finish the survey, we had to personally call several fintech business executives and ask for their participation. They kindly agreed to partake in it.

VENTURE CAPITAL

We conceived the survey for venture capital companies in close collaboration with AMEXCAP. Thanks to its design, the survey reflects funder priorities, as well as points raised during the first round of exploratory interviews with companies seeking financing and evaluates the degree of alignment of fintech priorities vis-à-vis VCs. The survey was fundamentally structured around four topics:

1) General VC characteristics and their activity in Mexico, specifically in the fintech arena
2) General interest in and risk perception of these institutions, per type of company and technology
3) Interaction with fintech undertakings, as well as the characteristics they seek in projects
4) Interest in and perception of financial inclusion, specifically in the rural sector

NON-BANK FINANCIAL INTERMEDIARIES (NBFI)

NBFIs are institutions in the popular savings and credit sector, namely savings banks, cooperatives, popular financial companies (SOFIPO), and multiple purpose financial institutions (SOFOM, E.N.R).

We designed the survey –mainly focused on financial institutions that provide services in rural areas –to include the Sparkassenstiftung know-how and experience on financial intermediation, industry-regulating standards, and the country-specific context. In order to ensure a representative sample selection of respondents, we used the extensive network of NBFIs that have worked with Sparkassenstiftung.

The survey is divided into four sections:

1) General information of NBFIs
2) Level of participation in financial inclusion
3) Digitalization perception and possible collaboration with fintech companies
4) Level of interest regarding digitalization and the potential experience NBFIs have had with it

SAMPLE ESTIMATE

We estimated the minimum sample size on the size of known populations for each of the interest groups based on a 95% confidence level and based on a tolerable margin of error following the formula:

$$\varepsilon = \frac{(N * Z\propto^{2} * p * q)}{(d^{2}*N-1+ Z\propto^{2}*p*q)}$$

We extended the invitation to answer the survey to senior or executive management of fintech companies, non-bank financial intermediaries, and VCs.

For companies based on financial technology and NBFIs, the answers obtained exceeded the estimated minimum number.

Below are the data related to surveys sent and answered by NBFIs and financial technology companies.

Table 5. Sample parameters report

	POPULATION	MINIMUM SAMPLE	OBTAINED ANSWERS	% OF ANSWERS
FINTECH	240	36	43	30%
NBFIs	278	37	61	24%

On the other hand, the VC survey was applied to AMEXCAP members, and so the information obtained may be biased. The collaboration of these companies was positive, since 12 out of 17 VC organizations that have invested in financial technology companies (70%) answered the questionnaire. Due to the possible bias and the amount of information in this area, analysis findings are not assumed to be representative. We report those results that are considered relevant and reliable after consulting with AMEXCAP.

4.3 GLOSSARY

C

Countercharge
Challenging a charge and requesting reimbursement.

D

Digitalization
Converting or encoding continuous data or information into numbers/digits, which may favor operational efficiency and greater competitiveness in different goods and services offers.

F

Financial education
Financial education is the process by which individuals acquire a better understanding of financial concepts and products and develop the skills necessary to make informed decisions, assess financial risks and opportunities, and improve their well-being. (OECD, Improving Financial Literacy, Paris, 2005)

Financial inclusion
For people and/or companies, it means having access to useful and affordable financial products that meet their needs —transactions, payments, savings, loans, and insurance— provided in a responsible and sustainable manner.

Fintech
Technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions, and the provision of financial services.

Front-end
The part of the software that interacts with users.

I

IPO: Initial Public Offering
Operation carried out through the stock market, whereby an offeror puts up for sale a company or a financial asset of a company. It is also called going public.

N

NBFI
Non-bank financial intermediaries.

R

Rural
Population under 15,000 inhabitants.

U

Urban
Population over 15,000 inhabitants.

V

VC: Venture Capital Companies
It refers to private equity companies that finance projects or ventures in the early stages of their development.

4.4 REFERENCES

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Varian, Hal R. "La oferta de la industria". In *Microeconomía intermedia: un enfoque actual* (1996, 4a ed.). Spain: Antoni Bosch, pp. 396-416.

4.5 NOTES

1. We posed the initial question in terms of "industry," but given the characteristics found in fintech, we decided to talk about "activity." We saw that the conditions that allow the different functions developed in each fintech classification to be called industry are under development. We understand industry as the sum of offers from each company with similar characteristics. Vid. Varian, Hal R. "La oferta de la industria". In *Microeconomía intermedia: un enfoque actual* (1996, 4a ed.). Spain: Antoni Bosch, pp. 396-416.

2. Bank for International Settlements, Basel Committee on Banking Supervision (02/19/2018). "Sound Practices: implications of fintech developments for banks and bank supervisors". https://www.bis.org/bcbs/publ/d431.pdf

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4. In March of 2017, the European Parliament (EP) stated that fintech can be understood as finance enabled by new technologies, covering the entire range of financial services, products, and infrastructure; this also includes insurtech (use of new technologies in insurance) and regtech (new technologies for regulatory compliance). The EP defines fintech as "short for financial technology [...] used mainly to refer to firms that use technology-based systems either to provide financial services and products directly or to make the financial system more efficient." European Parliament (04/28/2018). "Report on FinTech: the influence of technology on the future of the financial sector." http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A8- 2017-0176+0+DOC+XML+V0//EN Retrieved on 06/13/2018. In relation to the definition of the EBA vis-à-vis that of the EP, the word "effect" referred to by EBA contrasts with the word "efficiency" to which PE refers, because effect is defined —in its first meaning— by the Royal Spanish Academy as "what follows by virtue of a cause," while efficiency refers to the "ability to have someone or something to achieve a particular effect," therefore, the EBA definition entails the character of efficiency.

5. All graphs and statistics in this report come from the surveys conducted, unless otherwise stated. Vid. "Methodology" in Section E - Appendices.

6. These organizations are commonly referred to as fintech startup.

7. This refers to payment, e-commerce, and international transfer platforms. Source: Asociación Fintech de México, A.C.

8. Client evaluation and risk profiles, fraud prevention, identity verification, bank APIs (application programming interface), payment methods aggregators, big data & analytics, business intelligence, cybersecurity, and electronic procurement. *Op. Cit*

9. Software for accounting and billing infrastructure and financial management. *Ibid.*

10. Administration of personal finances, comparators and distributors of financial products, financial education, automated advisors, and financial planning. *Ibid.*

11. Digital brokerage services of securities, financial instruments, and currencies. *Ibid.*

12. Technology applied to the provision of services in the insurance sector. Ibid

13. Developers of blockchain-based solutions, brokerage, and digital asset markets.

NOTES

NOTES

cooperación
alemana
DEUTSCHE ZUSAMMENARBEIT

Finanzgruppe
Sparkassenstiftung für
internationale Kooperation