



Beyond access: A look into the drivers of long-term financial health

A rich study combining insights and data from millions of consumers to map the financial inclusion journey and chart a path to sustainable financial health.

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Foreword

We've seen the huge benefits the digital economy has created — faster commerce, greater transparency, more opportunities and prosperity.



Michael Miebach
CEO, Mastercard

And yet, today, many people who are underserved already have access to digital financial tools — they just aren't using them. A leading barrier preventing them from stepping into this brave new digital world isn't access. It's trust.

We all have a responsibility — banks, governments, financial service providers and many others — to find more ways to build that trust. When we do, it benefits people who are unbanked or underbanked, building up their resilience to economic shocks. That in turn supports their communities and, ultimately, the global market.

We must identify, develop and maintain commercially viable, economically sustainable and trusted financial services. They support our businesses — they support society.

We should start by removing complexity and supporting people on their financial inclusion journey. Our companies help individuals access ways to make and receive payments in a way that is relevant to them. Our teams have partnered in these efforts and share a commitment to do more.

Our partnership demonstrates how financial inclusion, when seen as part of the core corporate mission, can spark new technologies and address societal changes at scale and in a way that delivers a win-win for all involved.

This white paper aims to show the process of financial inclusion as it happens in the real world. It gives you a front seat to how strategies and maxims get turned into infrastructure, products and services that help people on the journey to financial security and health.

This financial inclusion journey is far from over, with 1.4 billion adults still lacking access to accounts, and many millions more underbanked. We must keep working to build trust and support those on the journey to realize greater financial health. We hope the insights in this paper inspire others and spark action to continue driving meaningful change together.



Cristina Junqueira
Co-Founder and Chief
Growth Officer, Nubank

Executive summary

According to the World Bank's latest Global Findex Database, approximately 75% of the world's adults have an account.¹

That number has grown significantly over the past several years, which is a sign of real progress in the pursuit to bring more people into the formal financial system and create an inclusive, digital economy that works for everyone.

But that rise in access has not corresponded with a rise in the full use of the associated tools and services that put people on a path towards a more secure sense of financial health. We set out to understand why.

In this innovative study, Mastercard and Nubank partnered to investigate the needs, preferences, attitudes, goals and behaviors of millions of consumers. Through a

combination of qualitative interviews, surveys of 2,000 Nubank customers and Brazilian consumers and granular analysis of three years of aggregated and pseudonymized transactional² and behavioral data from over 3.6 million Nubank customers, we've gathered a rich set of insights to inform how we can collectively close the gap between account access and a sense of sustainable financial security and health.

We mapped the experiences of people accessing and using financial solutions and tools against the holistic financial inclusion journey as defined by four stages and illustrated in Figure 1 below: Access, Usage, Security and Health.

1. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19 (World Bank).
2. All data analysis were conducted in accordance with applicable privacy and data protection legislation.

Figure 1
Financial inclusion journey stages

Stages



Our analysis allows us to identify the drivers that move people along their financial inclusion journey, and the barriers that may keep them lagging behind. These

are invaluable insights that will inform the design and deployment of innovative solutions with the potential to empower people and power economies in Brazil and beyond.

What we learned

- 1. With a little support, people catch on fast.** Integrating financial education and behavioral design that encourages healthy financial habits (such as automated reminders) into the user experience can go a long way in helping people advance on the journey. In our study, 60% of Nubank customers moved from having access to financial tools to using them within 24 months — and 40% moved to using them within 12 months — regardless of income level.
- 2. Habitual use is key to building trust.** Frequent and responsible usage of payment instruments, including debit/prepaid, credit cards or real-time payments, increases familiarity and trust, leading to growing use and accelerated inclusion.
- 3. Acceptance is key to advancement.** Expanding acceptance solutions to meet everyday transaction moments and bringing micro and small business owners into the digital economy will drive use and create familiar habits that foster trust.
- 4. It helps to start out small.** Making payments with debit/prepaid cards serves as a stepping stone to accessing credit, whether that's credit cards, personal loans or more advanced financial products. More than three-quarters (80%) of people who used a prepaid card used it as their first financial product, 67% of prepaid card users went on to access loan products and 36% went on to make investments.
- 5. Give credit where credit is due.** Credit access and responsible usage of credit early in the financial inclusion journey are strong predictors of positive movement toward financial health.

The insights from our study are exciting. They help focus not only our efforts but also those of our peers and partners in the private and public sectors on the actionable opportunities to unlock the true impact of inclusion, such as:

- **Driving account access and trust** through entry-level solutions, including early pathways to credit and enhanced educational tools to drive healthy habits and responsible use.
- **Enabling merchant payment acceptance**, especially among micro and small business owners who operate near low-income populations, via low-cost terminals and innovative solutions, including QR and tap on phone, to encourage frequent use (and trust) and accelerate the shift from cash.
- **Designing relevant, innovative solutions** that work for how people live to help them navigate and plan for a healthy financial future.

Further, while the scope of this study was Brazil, we believe its approach and design provides a framework that has applicability to many countries around the world. The analysis of transaction data combined with qualitative consumer feedback and an in-depth market assessment is a unique way to examine the full breadth of financial inclusion so we can move people beyond access and towards health.

Mastercard and Nubank share a common vision of financial inclusion at scale — where more people prosper and more economies thrive. This report is a result of the strength of our partnership and shared commitment to being a force for good. It's good business, and it's the right thing to do.

According to our study, by dollar value, consumer transaction volumes can triple on average when they advance from Access to Usage. And our report suggests that providing the right tools at the right time can enable consumers to graduate to additional, potentially profitable banking solutions. The deployment of inclusive digital solutions that bring more people into the ecosystem and help accelerate their journey to long-term, sustainable financial health is a win/win for everyone.

1

Introduction

1. INTRODUCTION

The financial inclusion theory: helping more households gain access to transaction accounts is a pathway to financial services like savings, credit, and insurance, which can help improve and protect their incomes and livelihoods, as well as improve the overall quality of their lives.

According to the World Bank, "Access to a transaction account is a first step in financial inclusion since a transaction account allows people to store money and send and receive payments."¹

That access "facilitates day-to-day living and helps families and businesses plan for everything from long-term goals to unexpected emergencies. As account holders, people are more likely to use other financial services, such as credit and insurance, to start and expand businesses, invest in education or health, manage risk and weather financial shocks, which can improve the overall quality of their lives."²

Our study set out to map the reality of financial inclusion against this theory. To do so, we assembled a quantitative and qualitative view of the consumer experience accessing and using financial services. Using real and granular transactional and behavioral data that was aggregated and pseudonymized from millions of Nubank customers over multiple years, and qualitative data from thousands of surveys, interviews, and focus group discussions,³ we plotted their journey through various stages of financial inclusion. We also identified the predictors and levers that can help steer them towards financial health.

There is ample academic evidence that financial inclusion — especially digital financial inclusion — brings both social and economic benefits that drive broad-based growth and can help everyone.⁴ Using new technologies and fintech, the financial services and banking sectors can reach large untapped markets while helping to create sustainable and scalable growth in economies. The financial services industry is uniquely positioned to bring stakeholders together in this effort and to lead the drive for growth and improvement. To help unbanked and underbanked people make informed decisions, we can provide education on responsible financial product usage and develop solutions that reinforce those behaviors. Measuring and tracking impact (both positive and negative) can help us to refine our efforts, ensuring that we can make a tangible difference in the lives of those we serve.

1. Financial Inclusion: Overview (The World Bank). www.worldbank.org/en/topic/financialinclusion/overview

2. *ibid.*

3. All data analysis and collection of customer data by Nubank was conducted in accordance with applicable privacy and data protection legislation.

4. Financial inclusion and inclusive growth: a review of recent empirical evidence (2017) World Bank Policy Research Paper. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/403611493134249446/financial-inclusion-and-inclusive-growth-a-review-of-recent-empirical-evidence>



2

A holistic view of
financial inclusion

2.1 Financial inclusion is a journey

Although global access to financial accounts grew significantly over the ten years ending in 2021, with a 50% increase in the worldwide share of adults with an account, there hasn't been a corresponding increase in the full-fledged usage of these accounts in ways that may help improve quality of life — whether by saving money, making payments, paying bills, withstanding financial shocks or protecting against risks with insurance.¹

Because the financial inclusion journey is complex — it is non-linear, multi-faceted and multi-stage, and it may require multiple financial services and products, depending on the needs to be addressed — we used a framework dividing the process into four stages: Access, Usage, Financial Security and Financial Health. We then categorized the consumers in our study according to which stage best described their current financial situation, as well as looked at how far along they were in each stage.

1. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19 (World Bank). www.worldbank.org/en/publication/globalfindex



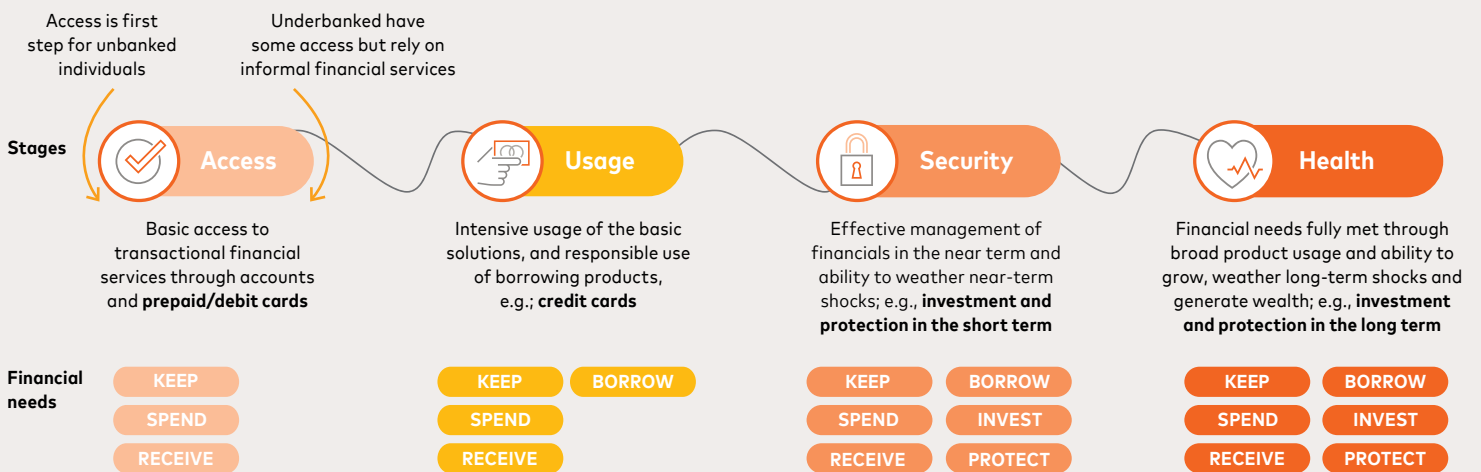
2. A HOLISTIC VIEW OF FINANCIAL INCLUSION

Figure 2 shows the financial needs of individuals at each stage of the financial inclusion journey.

Figure 2

Financial inclusion journey and need states

FINANCIAL INCLUSION JOURNEY



Financial needs: Definitions

SPEND

Debit cards, prepaid cards, credit cards, real-time payments (RTP), bill payments, account-to-account (A2A), mobile payments

KEEP

Current/checking accounts, savings accounts, payments accounts, wallets

INVEST

Certificates of Deposit (CDs), fixed income (bonds), equities, mutual funds, derivatives

RECEIVE

Point of sale (POS) machine, software-based POS, e-commerce gateway, real-time payments (RTP), payment strips (boleto), account-to-account (A2A)

BORROW

Revolving or installment-based, unsecured or secured/collateral (receivables, real assets)

PROTECT

Property and casualty insurance, life insurance, health insurance, pension/annuities

2. A HOLISTIC VIEW OF FINANCIAL INCLUSION

"If people aren't using — and benefiting from — new financial tools, then the idea of financial access is meaningless. To prevent that from happening, we need to start by listening, and then partnering and creating services that are relevant to local markets."

Michael Miebach,
CEO, Mastercard

2.2 Why understanding usage is crucial

As Mastercard works to bring one billion unbanked and underbanked individuals into the digital economy by 2025, we understand that actual usage of transactional accounts is central to our goal.

If consumers don't use these accounts, they don't move in the journey and may miss out on the full benefits of financial inclusion. As a result, the business case for financial services providers could potentially contract, which may stifle the investment needed to build products and services. Consequently, financial inclusion may fall short of its potential to drive inclusive and sustainable growth.



2. A HOLISTIC VIEW OF FINANCIAL INCLUSION

25%

of the world's adults are unbanked

50%

of the world's adults are underbanked, lacking access to credit and relying heavily on cash

The COVID-19 pandemic fueled an acceleration in both access to, and use of, digital payments, with millions of people opening and using their first transactional account as a result. According to the World Bank's latest Global Findex Database, approximately 75% of the world's adults had an account at a bank or regulated institution in 2021.¹

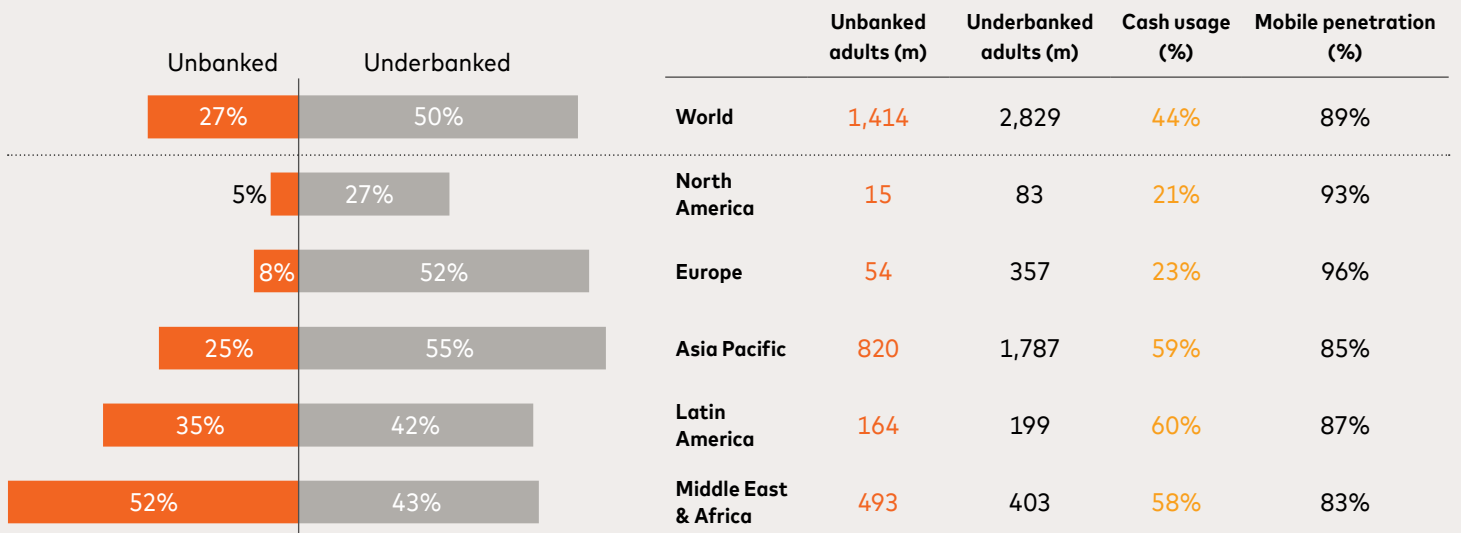
Yet the World Bank also found that many individuals are still not reaping the full benefits of financial services after gaining access to a transactional account. For example, many account owners said they worried about meeting their monthly expenses, or that they couldn't access emergency funds. In developing economies, about half of account owners made no digital merchant payment. A significant percentage also reported that they had difficulty operating their accounts alone or that their accounts were inactive. Additionally, our study findings indicate that around 50% of the world's adult population still lacks access to credit and relies heavily on cash. While we must work to ensure access for the approximately 25%, or 1.4 billion, unbanked adults in the world, it is as important to deliver the full benefits of account ownership to the approximately 75% who already have access.

Figure 3 shows a summary of our findings on unbanked and underbanked adults across major regions of the globe.

1. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19 (World Bank).

Figure 3

Percentage of unbanked and underbanked adults across major global regions – 50% of global adults remain underbanked



Note: "Unbanked" defined as percentage of adults (ages 15+) without an account; "underbanked" defined as percentage of adults without a credit card; "mobile penetration" defined as percentage of adults who own a mobile phone; "cash usage" defined as percentage of adults who made utility payments using cash only. Source: BCG Analysis (2024) for World Bank Financial Inclusion Project and FinDex 2021.

3

Study methodology
and context

3. STUDY METHODOLOGY AND CONTEXT

Our study fused qualitative research and quantitative analysis of real and granular transactional data.

We believe the analysis of both banking and spend data combined with qualitative consumer feedback gives our findings robustness and depth.

The qualitative data came from in-depth, one-on-one interviews and focus-group discussions with Nubank customers about their financial needs, barriers, preferences and motivations, as well as their reactions to potential solutions. In addition, researchers conducted two surveys of a total of 2,000 respondents including Nubank customers and a broad representative sample of Brazilian consumers to gauge financial behaviors, health and personal goals and achievements.

To map the financial inclusion journey, the quantitative analysis examined aggregated and pseudonymized transactional and behavioral data from over 3.6 million Nubank customers who opened accounts between 2019 and 2021.¹ Researchers performed multiple regressions to identify key indicators and predictors of movement through the financial inclusion journey.

By studying the same population in the qualitative and quantitative analyses, we achieved a synthesis that helped drive additional insights and validate our findings. For example, we could compare a group's perception of its financial health with the empirical reality.

We also completed a detailed case study on financial inclusion in Brazil to understand the effects of government, financial services culture, demographics, infrastructure and the general financial condition of Brazilians.

Lastly, the study allowed us to test and validate the framework we developed. We classified consumers according to their current stage of financial inclusion and assigned them a financial health score, helping create a framework that can potentially be extended to a wider range of consumers in other geographical regions. It should be noted that where people land and how they progress along the journey is based on behaviors and not income or wealth.

1. All data analysis and collection of customer data by Nubank was conducted in accordance with applicable privacy and data protection legislation.

3.1 Brazil's financial inclusion landscape

With just under 220 million people, Brazil is the largest and most populous country in Latin America and the fifth largest in the world.¹

According to the World Bank's most recent Findex Database, 84% of adults in Brazil had a formal financial account in 2021, up from 70% in 2017 and 56% in 2011.² While these numbers are strong, the next step is to leverage these gains in financial access to improve financial health — while extending access to the country's remaining 27 million unbanked adults, according to the Central Bank of Brazil.

The Central Bank underscored the importance of focusing on financial health and well-being as an outcome of financial access when it assumed the presidency of the G20's Global Partnership for Financial Inclusion (GPFI) in 2024. "The aim of the Brazilian G20 Presidency — under the Presidency priority — is to deepen discussions and build a consensual concept of financial well-being as an outcome of financial inclusion to guide the GPFI work moving forward, and suggest measurement tools that can be worked on internally in each country and allow international comparability" the partnership's co-chairs wrote.³

1. U.S. Census Bureau, International Database (demographic data as of July 1, 2024). www.census.gov/popclock/world/br

2. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19 (World Bank).

3. 2024 GPFI Annual Work-Plan (March 2024). www.gpfi.org/news/2024-gpfi-annual-work-plan



3. STUDY METHODOLOGY AND CONTEXT

Figure 4 summarizes findings of surveyed Brazilians and illustrates key factors contributing to the Brazilian financial inclusion landscape.

Figure 4

Understanding the Brazilian context from our survey of the overall population



CONTEXT AND ROLE OF GOVERNMENT

Transformational waves with government push:

- Acceleration of digital access
- Government push to increase access and competition in the financial sector through regulation
 - Free salary accounts
 - Facilitated payments and fintech licenses
 - Open banking
 - Real-time payment rail (Pix) offered for free through any bank account
- Scale up of major fintech players in the distribution of financial services
- COVID-19 emergency aid distributed through state-owned bank (Caixa)

Cultural context:

- Tendency toward buy now, pay later (BNPL) with interest-free installments offered by retailers and built-in on credit card
- Limited financial education due to rapid increase in access



DEMOGRAPHICS

- Brazil is significantly more urban compared to the rest of the world, which fosters technology adoption and investments in infrastructure

	World	Brazil	Brazil survey
Gender (M/F)	50/50	49/51	48/52
Median age	~30	~33	~35
Median income (US\$)	~\$9.7k	~\$4.6k	~\$6.2k
% Not employed	~6%	~4%	15%
% Rural	~40%–45%	~10%–15%	~8%



TAKEAWAYS FROM ANALYSIS

- Population with high digital familiarity and other unique factors primed Brazil for rapid growth in financial inclusion
 - Other markets may lack some of the enabling prerequisites, or may be earlier in the maturity curve
- **Culture is key factor:** While consumers in certain markets may eschew debt, in Brazil it is quite commonplace for consumers to pay in installments over time
- Brazil is significantly more urban vs. worldwide, which means the rapid uptake of financial inclusion, which may make it hard to replicate in other markets, depending on distance/infrastructure gaps

Source: World Bank (2021); BCG analysis (2024).

3. STUDY METHODOLOGY AND CONTEXT

The degree of financial inclusion in any given market is largely driven by infrastructure (for example, financial systems or physical facilities for transportation and communications), government regulations and industry dynamics. Our study revealed that Brazil is advanced across these dimensions due to high urbanization; mobile penetration; federal government support; the development of digital public infrastructure (DPI) such as Pix, a real-time payments platform created and managed by the Central Bank of Brazil; and a robust, competitive payments landscape with many financial institutions and fintechs.

More recently, with regard to financial inclusion in Brazil, the following market development factors have also been relevant:

- Market regulations encourage competition in the financial services sector (among, for example, payment institutions and instant payments).
- Smartphone and technology adoption is high.
- The pandemic accelerated the shift towards digital payments. For example, social programs like “Bolsa Família” (Family Allowance)¹ and “Auxílio Brasil” (Brazil Assistance)² were implemented with the support of Caixa, the state-owned financial service company, to allow bank accounts to facilitate government disbursements.
- A growing number of major fintech players offer “freemium” products, with basic features or services at no cost and more advanced services at a premium.
- The vast majority – 96% – of residents over age 15 have government-issued identification.³

The elimination of typical infrastructure barriers to financial inclusion makes Brazil an advantageous market for studying the process and impact of financial inclusion independent of those barriers. For example, we found that despite high levels of access, over 70% of surveyed Brazilians do not feel financially secure and/or included⁴ (see figure 5 on the following page). This needs to be better understood.

1. Investment in Brazil's Bolsa Família reaches record high in March – and its highest average value in history (2023), Brazilian Government website gov.br. www.gov.br/planalto/en/latest-news/2023/03/investment-in-brazil2019s-bolsa-familia-reaches-record-high-in-march-2013-and-its-highest-average-value-in-history

2. Brazil has the largest income transfer program in the world (2022), Brazilian Government website. www.gov.br/en/government-of-brazil/latest-news/2022/brazil-has-the-largest-income-transfer-program-in-the-world

3. World Bank ID4D Dataset, 2021. [https://databank.worldbank.org/source/identification-for-development-\(id4d\)-data](https://databank.worldbank.org/source/identification-for-development-(id4d)-data)

4. Financial Inclusion Survey with Brazilian population (October 2023); BCG analysis (2024). Percentages above include partial and incomplete responses.

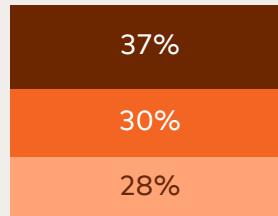
3. STUDY METHODOLOGY AND CONTEXT

Figure 5

Results from Financial Inclusion Survey with Brazilian population

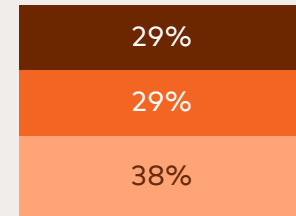
Financial inclusion

Question: How included in the financial system do you currently feel?



Financial security

Question: How financially secure do you currently feel?



Legend: ■ Included/secure ■ Neutral ■ Excluded/insecure

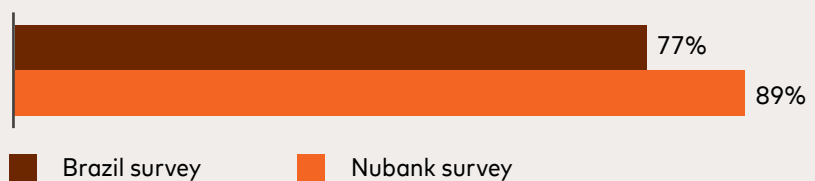
Source: Financial Inclusion Survey with Brazilian population, October 2023; BCG analysis (2024).

3.2 Profile of Nubank customers in the study

Nubank customers in our sample differ from the larger consumers sample in our case study. Nubank has embraced a fully digital business model, forgoing traditional brick-and-mortar branches, and it provides financial services to around 44% of Brazil's adult population.¹ Figure 6 highlights noteworthy data points on the Nubank customer sample.

Figure 6

Additional behavioral data on Nubank's customer sample in the study



Source: Financial Inclusion Survey with Brazilian and Nubank population. Sample obtained October 2023. BCG analysis (2024).

1. Nu Holdings Ltd., Form 20-F (2022).

www.sec.gov/Archives/edgar/data/1691493/000129281423001671/nuform20f_2022.htm

3.3 Extrapolation and applicability in other markets

We carefully weighed if our key learnings could be applicable to other countries and where further validation might be needed.

We employed a specific methodology to determine whether our insights and findings can inform recommendations in other markets: namely, we created comparative global market archetypes and conducted a deep analysis of seven exemplar countries (U.S., Mexico, Brazil, Nigeria, Spain, India and the Philippines) representing various stages of financial inclusion and market development. In addition, through detailed ethnographic research, we developed eight globally relevant underserved consumer personas that represent the stages of the financial inclusion journey. These personas helped us to understand the most relevant financial needs across different markets. These archetypes and personas structured our initial approach and helped us form our initial hypotheses.

We validated the applicability of the key takeaways and findings in other markets with local experts across different markets, global thought leaders in financial inclusion and additional desk research.





4

Key findings
and insights

4. KEY FINDINGS AND INSIGHTS

The underserved are a commercially significant segment. By dollar value, customers' transaction volumes tripled on average when they advanced from Access to Usage.

4.1 Movement along the financial inclusion journey: What drives more inclusion?

Our study found that 60% of Nubank's customers moved from Access to Usage in 24 months, and 40% moved within 12 months regardless of income level.

We validated that progress toward financial health is driven by **frequent, consistent and responsibly managed product use**. Over time, frequent engagement creates habits, helps consumers become more comfortable with products and builds trust, especially if the interactions are positive.

Our qualitative interviews supported this finding. In fact, our respondents singled out lack of trust, rather than lack of access, as the major barrier preventing them from using financial solutions like savings, investments and lending products.

Frequent and consistent product use also generates transactional data that can reveal consumers' needs and readiness for other products. Especially at the point of transaction, these insights can be used to nudge customers towards educational resources and products that can guide them along the journey. For example, billers could remind customers about their scheduled payments on the due dates, preventing delays and penalties. Across products, Nubank's app experience educates users by explaining fees, terms and conditions.

Generally, the more customers used products responsibly – and the more products they used – the more positive their progress towards financial health. In addition, by dollar value, customers' transaction volumes tripled on average when they advanced from Access to Usage based on more consistent usage of a broader range of products and services to meet their needs. Driving higher spend helps drive revenues and key primary banking behaviors, which in turn help drive profitability. This demonstrates that if addressed correctly, by providing the right tools at the right time, financially underserved consumers can graduate to additional potentially profitable banking solutions and can be a commercially viable segment. **This is yet another key finding: Financial inclusion offers a strategic opportunity for the banking and financial services sector to help generate sustainable growth.**

4. KEY FINDINGS AND INSIGHTS

Responsible and consistent usage of digital payment methods is a better predictor for financial health than income.

The study showed that rising levels of disposable income is a strong indicator of forward movement in the financial inclusion journey and progress toward financial health. However, frequent, consistent and responsible use of any digital payment, including prepaid/debit cards, credit cards and real-time payments, is a more accurate predictor of progress towards financial health than income.

We believe this may be, at least in part, because debit/prepaid cards can be a pathway to credit and other advanced products. According to our study, for **80% of prepaid card users, it was their first financial product; 67% went on to access loan products (such as personal loans or financing), 36% made investments and 4% took out insurance.** For added context, Nubank's customer journey is designed to accommodate multiple pathways to credit. Those applicants who do not get approved for a credit card at first may still be offered a digital "NuAccount" that offers other services like savings and a checking account.

Our findings show that **responsible use of credit in particular is a strong predictor that a consumer is moving towards financial health and will graduate to other financial products, like loans and investments.** On the other hand, respondents who used credit less responsibly as a financing tool for high-priced items, generating high revolving balances and/or missing payments — while also relying heavily on a limited set of financial products — were much more likely to face worsening financial health. Therefore, lenders should teach those who are underserved how to use credit responsibly and manage cash flow as a key to accelerating the financial inclusion journey.

Our study estimates that 50% of the world's adult population still lacks access to credit and relies heavily on cash. Nubank believes its business model may address this issue, and they challenge the traditional view that credit takes time to earn and should be granted later in the journey. According to Nubank, their proprietary data and credit underwriting models allow them to offer an amount of credit to customers early in their financial inclusion journey. To bring more people into the financial system, Nubank uses a "low-and-grow" strategy: they grant lower credit limits to new customers (based on their risk profile) and raise these limits in response to positive use and payment history. To better understand their financial needs, risks and behavior, Nubank collected an average of over 30,000 data points per monthly active customer in 2022. This helped the company suggest products that it believes may be beneficial to each customer based on their specific financial situation.

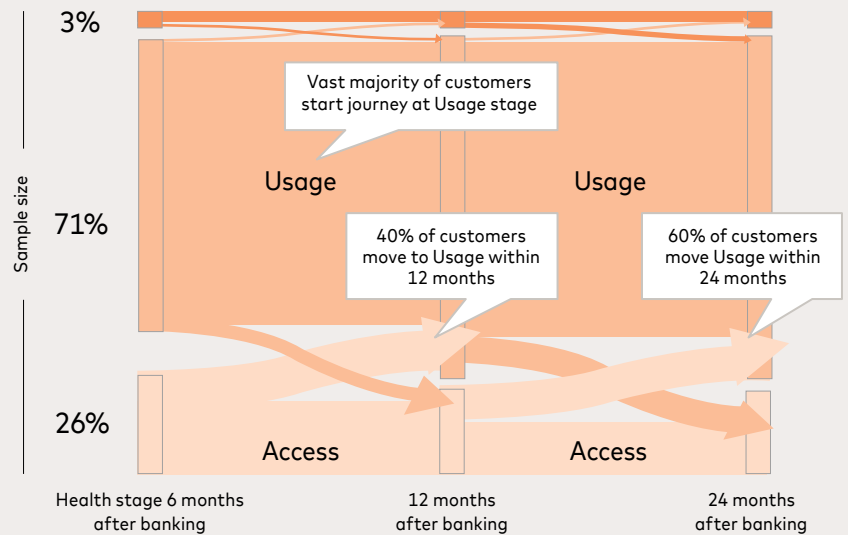
4. KEY FINDINGS AND INSIGHTS

Here are more detailed views of the data. Figure 7a shows how consistent usage spurs consumers along the path to financial health.

Figure 7a

Nubank case study: Consumer movement along financial inclusion journey primarily driven by consistent product usage

Financial inclusion journey mapping for customers who started banking in 2021¹



Responsible credit usage

Credit usage has highest impact on movement up the journey; customers with more frequent credit usage are more likely to move up with healthy usage.



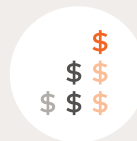
Overall product utilization

Increased product usage, distribution of products and duration was correlated with increased financial health.



Pix usage

Using noncash channels has an equivalent impact on movement as disposable income; total value moved through Pix correlates with movement to security.



Savings/disposable income

Savings has a bigger impact on movement from access to usage but less impact than other factors when moving to security.

1. For customers who started banking with Nubank between January and June 2021, and who were able to have financial health reviewed for full 24-month period following such account opening. All data analysis and collection of customer data by Nubank was conducted in accordance with applicable privacy and data protection legislation.

2. Consistent customer cohort only includes customers who had active banking history 6 months and 24 months after becoming active. Only showing movement of 2k+ customers. Thickness of lines are proportionate to number of people. Source: Nubank provided data, BCG analysis (2024).

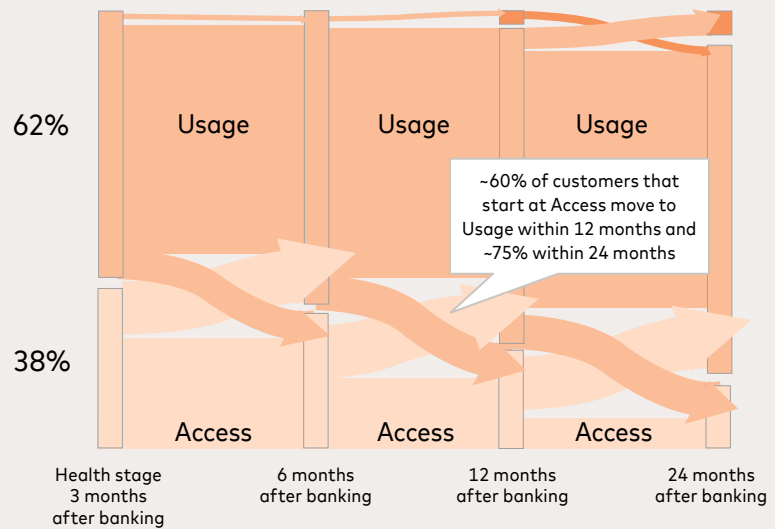
4. KEY FINDINGS AND INSIGHTS

Figure 7b illustrates how prepaid cards can act as a gateway to better financial health.

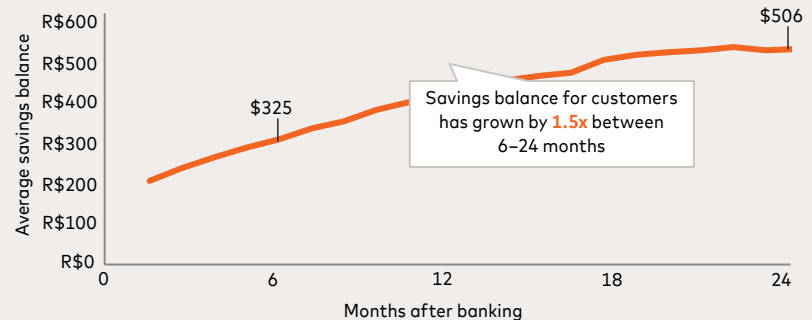
Figure 7b

Access to prepaid cards can be a pathway to improving financial health

Financial inclusion journey mapping for customers who started with prepaid card in 2021¹



Savings balance for customers who started with prepaid card¹



1. For customers who started banking January–June 2021 and monitoring financial health up to 24 months after. All data analysis and collection of customer data by Nubank was conducted in accordance with applicable privacy and data protection legislation.

2. Only showing movement of 2k+ customers. Thickness of lines are proportionate to number of people. Source: Nubank provided data, BCG analysis (2024).

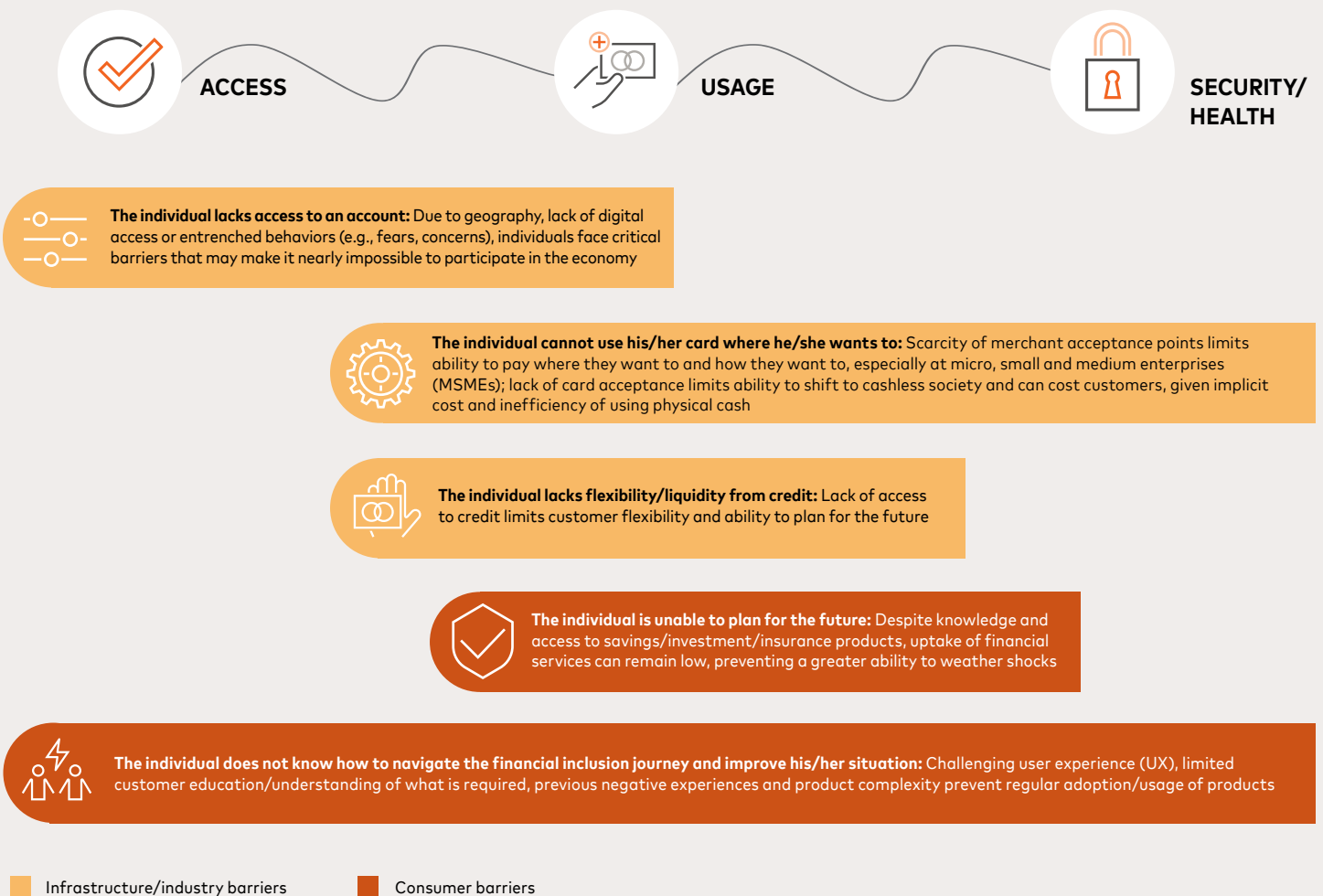
The data shows that digital public infrastructure (DPI), like the national real-time payments platform Pix, drives access to financial services. However, according to the study findings, **the addition of other transactional products, like debit/prepaid and credit cards, encourages more consistent use of financial services that is essential for consumers to progress further towards financial health.**

4.2 Barriers to movement along the financial inclusion journey

To progress through the stages of financial inclusion, the underserved may need help from specific behavioral and infrastructural enablers. Figure 8 illustrates the various barriers that may occur along the journey.

Figure 8

Financial inclusion is a journey, and movement along the journey requires specific behavioral and infrastructure enablers at each stage for the unbanked and underbanked



Barriers when moving from excluded to Access

Both personal attitudes and infrastructure barriers may impair underserved individuals in moving from excluded to Access in their financial inclusion journey. For example, a person may fail to gain Access if they lack the identification documents required to open an account or if their area lacks digital connectivity infrastructure. In addition, they might stall because they don't trust digital financial services, due to either limited understanding of the products or a previous bad experience. Unless these barriers are addressed, they may make it almost impossible for underserved individuals to get access to a financial account and participate more fully in the formal economy.

Barriers when moving from Access to Usage

When trying to advance from Access to Usage, customers may also contend with merchants who don't accept electronic payments. They may also be hampered by limited access to micro-merchants via cards and Pix, and they can't take advantage of the flexibility and liquidity that electronic payments and credit enables. **The absence of payment acceptance infrastructure is the most critical barrier in this phase, as it can prevent underserved consumers from paying where and how they want to, especially at micro-, small- and medium-sized enterprises (MSMEs), impeding their shift from cash to electronic payments.** Because they may not be using electronic payments frequently or consistently, they are less likely to form the habits that will promote their comfort with – and trust in – financial services. Unease with digital products is one of the major barriers to progress on the financial inclusion journey.

Because credit scores and risk assessments are typically based on records like loan and credit card accounts, consumers who don't often use payment instruments may be denied credit cards, loans, leases and other financial services – regardless of their ability to make payments. That can further disrupt their progress, because earlier access to credit and responsible use of borrowing products have a significant impact on progress towards Financial Health.

Barriers when moving from Usage to Security and Health

On the final stage of the journey, from Usage to Security and Health, consumer barriers may often be as formidable as infrastructure issues. Doubt, misperception and lack of education all inhibit the responsible use of advanced tools, such as investments and insurance, that help consumers weather longer term financial shocks. Enlisting behavioral data to encourage healthy financial habits – via features like consumer controls and payment reminders – is key to supporting consumers and habituating them to planning for the future.

4. KEY FINDINGS AND INSIGHTS

4.3 Key factors for movement along the financial inclusion journey

Customers with more frequent credit usage were more likely to move along the journey with responsible usage.

According to our analysis of the aggregated and pseudonymized data provided by Nubank, after opening a Nubank account, customers tend to start with a limited set of basic financial products, usually a credit card or prepaid card or the domestic real-time payments platform. Approximately 50% of Nubank customers have a credit card overall. For the Nubank customers we surveyed, 100% of them had a credit card at some point. Over time, customers may progress to more advanced products, such as loans and investments.

As mentioned already, customers who used credit often (and responsibly) were more likely to advance, as were customers with frequent inflows from real-time payments. Younger and higher-income customers are also more likely to move to the Usage stage after opening an account. Responsibly managed credit usage remained a strong factor in reaching Financial Security and Health.

On the other hand, the behaviors that damage financial health reveal underserved or newly served consumers' remaining needs. In particular, potentially eschewing or using credit less responsibly — carrying over large balances, financing large-ticket items and missing loan repayments — impaired financial health, as did saving less. Frequent real-time payments, especially with high outflows, also limited progress, suggesting customers need to improve their expense tracking and management.



4. KEY FINDINGS AND INSIGHTS

“The data from this study underscores the market potential in Brazil and Latin America to promote financial inclusion for millions of unbanked and underbanked individuals by simplifying the complexity in the financial sector. Empowering people with control over their finances not only drives regional economic growth but also fosters a positive global impact in their communities.”

Cristina Junqueira
Co-founder and
Chief Growth Officer

4.4 Factors unique to Nubank for movement along the financial inclusion journey

According to research from Data Nubank, Nubank ushered 5.7 million Brazilians into the credit market between July 2021 and July 2022.¹ To put the findings of the study in context, we highlight below several of the unique factors that Nubank believes are responsible for their results:

First, Nubank leverages data for its decisions, most importantly in assessing customers and targeting specific products during different stages of their journey. As referenced earlier, to evaluate customers with no formal credit history, Nubank uses their “low and grow” strategy, in which they offer lower credit limits to new customers based on their credit risk profile and then selectively increase these limits based on positive usage and payment history. This is then added to their proprietary credit scoring model that analyzes their spending, payment and investment profiles. According to Nubank, this has been critical in helping customers overcome barriers in the first phase of the journey and graduate through later stages, establishing a potential path to more sustainable credit access.

Nubank also takes advantage of its growing pool of data to develop and feed their risk assessment models. They leverage data from digital payments, including card transactions and real-time P2P and P2M payments, as well as public sources such as credit bureaus. They also gather information on payment history and spending patterns. All data is protected by their data protection policies. As Nubank collects more data, they believe they can better assess customer needs, risks and behavior and diversify product offers.

Second, since its formation in 2013, Nubank has been on a mission to create a superior customer experience with products that are designed to be easy to use, transparent and low-cost when compared to market alternatives. For example, according to Nubank, their digital checking and savings account is designed to be easy to open, and the Nubank app allows customers to monitor in real-time how close they are to their credit limit.

1. Nubank included 5.7 million Brazilians in the credit market in one year (2023), Nubank Newsroom.
<https://international.nubank.com.br/company/nubank-included-5-7-million-brazilians-in-the-credit-market-between-july-2021-and-july-2022/>

4. KEY FINDINGS AND INSIGHTS

Third, Nubank embeds financial education resources and clear explanations of product features, fees and risks into the user experience. As Nubank customers increase their financial resilience and control, this includes resources on savings, investments and insurance. Reaching over 80 million visits on their news blog alone and more than 13 million followers in their social media in 2023, Nubank believes it is a leader in democratizing access to financial education. On their proprietary channels, they publish educational content on topics of general interest, such as income tax returns, entrepreneurship and fraud prevention. According to Nubank, they believe this is a highly

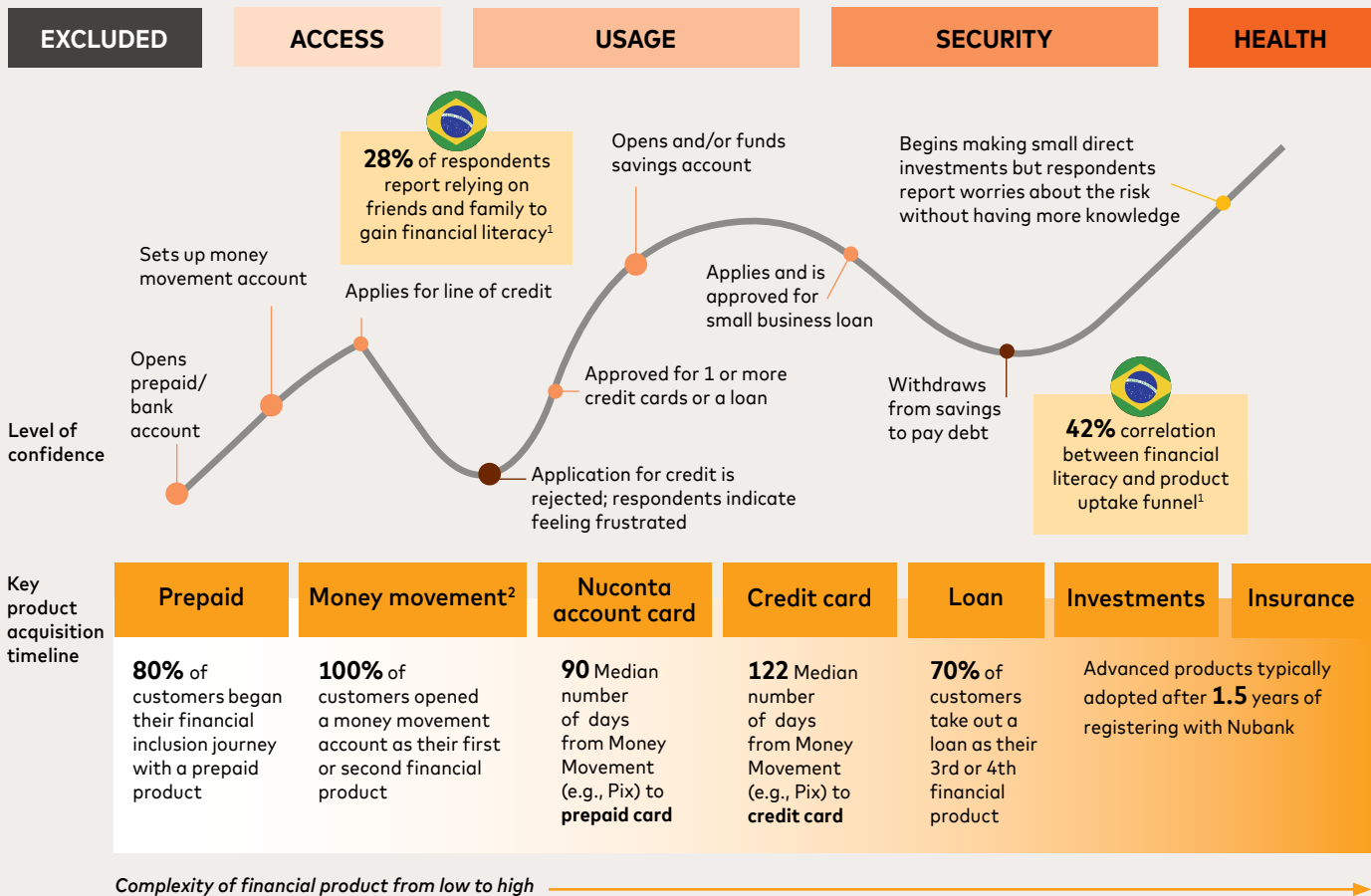
differentiated and powerful tool to strengthen their brand, attract new customers and engage existing ones.

Fourth, Nubank believes they have developed a strong customer experience. Customers can contact Nubank via their smartphone app or by phone, chat, social media or email. Here, too, Nubank puts data to work, analyzing a customer's prior interactions with the smartphone app to predict service inquiries and route them to the correct support team. Figure 9 summarizes the unique Nubank experience along the journey.

Figure 9

Financial inclusion journey varies for individuals, with common themes emerging

ILLUSTRATIVE FINANCIAL INCLUSION JOURNEY



1. Based 2023 activity of a sample of Nubank who started banking with Nubank in 2021, data shared Sept.–Oct. 2023.

2. Money movement accounts include tools like Pix. Source: Nubank provided data; BCG analysis (2024). All data analysis and collection of customer data by Nubank was conducted in accordance with applicable privacy and data protection legislation.

4.5 Key findings from focus groups

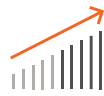
Our focus groups provided valuable insight into the needs, desires and expectations of consumers to inform how to best serve them.



Consumers **prefer financial inclusion solutions that educate, simplify their lives and automate financial tasks**, while keeping a low-friction experience (e.g., not overwhelming with number of alerts).



Financial education programming is considered a **crucial financial inclusion solution**; however, many consumers reported avoiding it due to the **perception that it's complex, time-consuming** and only **meant for a privileged few**.



Fear of solutions that imply paying interest rates is widespread, but many also think that financial education can help alleviate this fear by promoting understanding of how to manage debt.



Uncomfortable with solutions that change the timing of income and expenses (e.g., payments postponements) which may disrupt current routines and create anxiety about the ability to effectively manage financial responsibilities. **These are, however, perceived as a buffer for emergencies.**



Consumers desire financial inclusion solutions but lack the willingness to pay, especially due to financial constraints. In their opinion, **providing "freemium" access may empower** individuals to build financial reserves and eventually afford these products in the future.



5

Expanding the impact of the
financial inclusion journey

5. EXPANDING THE IMPACT OF THE FINANCIAL INCLUSION JOURNEY

Based on these insights, we can recommend strategies to facilitate the financial inclusion journey and magnify its impact.

Looking to the broader financial services industry, the banking sector and stakeholders can address infrastructure and consumer barriers. Financial institutions should continue to provide account accessibility and expand merchant payment acceptance. They can also broaden credit access by exploring alternative data and faster paths to credit. In addition, they can leverage behavioral data to develop solutions for the underserved and prioritize customer resilience and financial education.



Recommendations to address infrastructure and industry barriers

- **Drive account access:**
 - Leverage entry-level products like debit/prepaid cards and real-time payments to facilitate the transition from cash.
 - Educate and build trust by explaining the value of digital payment instruments.
 - Create solutions that help individuals prove and authenticate their identity to eliminate a key barrier to accessing financial services.
- **Drive merchant payment acceptance to encourage frequent use:**
 - Foster digital payment acceptance – and facilitate the shift away from cash – among micro- and small-business owners who operate near low-income populations by continuing to innovate and distribute low-cost terminals and solutions such as tap-on-phone and QR.
 - Drive payment acceptance in everyday usage situations, such as mass transit and utilities, to help low-income populations pay digitally more often to form a habit of using digital payments.
- **Provide earlier access to credit and encourage responsible use:**
 - Extend appropriate credit to the underserved segment. Alternative data and paths to credit, such as alternative credit scoring and alternative lending, can help overcome a thin or nonexistent credit history.
 - **Alternative Credit Scoring:** Rather than relying solely on traditional sources to determine creditworthiness, providers should consider alternate information, such as rent and bill payment history, device ownership, internet use, ownership of certain durable goods and the condition of the applicant's home (see Section 4.4 for detailed examples from Nubank).
 - **Alternative Lending:** These tools broaden access to credit and help consumers manage financial resources. Examples are payroll loans, earned wage access (the ability to collect a portion of one's earned wages outside the traditional pay cycle) and embedded financing provided by retailers and marketplaces.
 - Explore open banking/finance solutions, which provide access to alternative and shared data sources, breaking traditional barriers and creating a more inclusive financial sector.

Recommendations to address consumer barriers

- **Educate consumers to plan for the future:**
 - Design easy-to-use solutions that enable secure management and storage of funds. For example, personal financial management tools and round-up and save features, like Nubank's Money Boxes and Payment Assistant, can help customers organize their savings and recurring expenses.¹
- **Help customers navigate the financial inclusion journey:**
 - Integrate behavioral design to develop solutions that encourage healthy financial habits, such as automated nudges and reminders.
 - Implement social impact initiatives that focus on financial education and digital literacy – especially during a transaction – as part of the user experience.

Conclusion

In addition to benefiting the underserved, financial inclusion represents an economic opportunity, amplifying its potential social impact. We challenge others to join Mastercard and Nubank in tackling the barriers to financial inclusion. By designing solutions that meet the needs of the underserved, we can attain maximum outreach and support the long-term sustainability of a financial sector that benefits all.

To explore opportunities together, contact your Mastercard account representative.

1. How Nubank launched 'Caixinhas' (2022) (Nubank).
<https://building.nubank.com.br/how-nubank-launched-caixinhas/>

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References and acknowledgments

About Mastercard and Nubank



About Mastercard (NYSE: MA)

Mastercard is a global technology company in the payments industry. Our mission is to connect and power an inclusive, digital economy that benefits everyone, everywhere by making transactions safe, simple, smart and accessible. Using secure data and networks, partnerships and passion, our innovations and solutions help individuals, financial institutions, governments and businesses realize their greatest potential. With connections across more than 210 countries and territories, we are building a sustainable world that unlocks priceless possibilities for all.

For more information, visit www.mastercard.com.



About Nubank

Nubank is one of the world's largest digital financial services platforms, serving around 94 million customers across Brazil, Mexico and Colombia. As one of the world's leading technology companies, Nubank has been leading a shift in the industry, leveraging proprietary technologies and innovative business practices to create new financial solutions and experiences for individuals and SMEs that are simple, intuitive, convenient, low-cost and human. Guided by a mission to fight complexity and empower people, Nubank aims to cater to customers throughout their complete financial journey, offering products and features that fit their needs, all while connecting profit and purpose to create value for its stakeholders and have a positive impact on society.

For more information, visit www.nubank.com.br.

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