RESEARCH REPORT 2

Can Aligning Loan Payments with Income Support Small Businesses in Mexico?

center for inclusive growth

CENTER FOR ADVANCED HINDSIGHT
COMMON CENTS LAB

Background

Small and medium-sized enterprises (SMEs) play a crucial role in the Latin American social and economic landscape, representing 99.5% of firms and creating 60% of formal productive employment across the region (OECD, 2019). To advance our goal of supporting such an important segment of the economy, we partnered with Konfío, a Mexico-based fintech company specialized in financial and payment solutions for small and medium companies. They do this through a fully digital lending platform that offers a variety of credit solutions using technology and data from the Mexican tax collection service, the credit bureau, and other non-traditional sources to estimate their applicants' creditworthiness—enabling small and medium-sized companies to access business loans.

The services offered by Konfío include a business credit card, payment terminals, and other business tools such as working capital loans, which make up an ecosystem that can service the different needs of its clients. They have a client portfolio of 70,000 small and medium-sized businesses, who take average loans of MX$370,000 (around US$21,600) on working capital and have access to lines of credit of an average of MX$97,000 (around US$5,600) in business credit cards. They also report that 28.7% of their pool of applicants identify as women-owned, and a slightly higher proportion (20.1%) of those who get approved are female-owned firms as compared to men-owned firms (19.3%).

Leveraging the wealth of data and insights generated by Konfío and its clients, as well as our shared mission to support small- and medium-sized businesses in the region, we joined forces to identify opportunities to design and test behaviorally informed interventions that could potentially benefit both Konfío and its clients.

STUDY 1

Exploring the opportunity to align credit payments with income

BEHAVIORAL DIAGNOSIS

SMEs have a need for credit to grow

Following conversations to get to know Konfío's services in depth, insights about their clients, and their product, service, and organizational challenges, we decided to focus on their type of Working Capital loan product that is offered to small and medium-sized clients (fiscally defined as "PFAE"). In those firms, the owner is also the main decision-maker in the business, but also has collaborators (either employees or family members) whose income also depends on the performance of the company.

Such businesses are a crucial engine for the Mexican economy

According to an OECD report, there were 4.47 million SMEs in 2022 in the country, of which 94.1% were identified as micro-enterprises (OECD, 2022, p. 192). Given their smaller size, they have a critical need for access to capital to make investments that may allow them to innovate and grow their businesses sustainably. However, as the OECD report also found, they also tend to have poor access to finance due to "acute information problems, higher transaction costs, and limited financial knowledge that characterize them" (OECD, 2019). By providing access to financing through its online platform, Konfío's Working Capital product aims to address the SMEs' need for accessible credit.

SMEs have volatile income flows

Once firms get access to credit from Konfío, however, we learned that 15% of SME clients were not able to make their payments on time. Interestingly, despite their failure to pay on the exact date they were scheduled, 80% of such clients made their payments within a period of 10 days after the scheduled date. Even though they managed to pay, late payments led them to incur late fees and other added costs that would have been avoided if they had made on-time payments, affecting their financial health.

One of the ways Konfío offers to help users pay on time is by letting them set up regular payments through "domiciliación," an auto-debit online process through which they sign up to make automatic payments that are withdrawn from their accounts on the set payment dates, thus reducing the friction involved in making the transaction every month. This feature, however, is not the preferred option for a relatively high percentage of clients, and Konfío wanted to find out more about why.

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Importantly, because Konfío clients are all small and medium-sized businesses, their income flow schedules differ from those of salaried workers who get paid on regular schedules. In addition to evidence suggesting that consumers can face financial shortfalls if there is a timing mismatch even when the sources are predictable, we know there is an added element of stress when such timing is uncertain (Dahan & Nisan, 2022). Hence, another one of the goals of the experiment was to understand the optimal dates for them to make credit payments depending on when they received their highest levels of income.

STUDY DESIGN

Survey and research approach

Based on what we learned at the diagnosis stage about Konfío, we decided to focus on addressing the challenge that a sizable number (about 15% of the portfolio) of Konfío's Working Capital credit borrowers failed to make their payments on the scheduled dates.

This decision was also based on our previous experience conducting a study to tackle a similar challenge with a financial partner in the U.S., Beneficial State Bank, where we tested the effect of aligning car loan borrowers' credit payment dates with their salary pay dates. A study by Baugh & Wang (2018), had found that "some consumers fail to perfectly budget monthly cashflows, even from highly predictable sources of income." Hence, our study with Beneficial State Bank aimed to reduce the friction of paying car loans by aligning credit payment dates with the dates when borrowers received their salary. Such change resulted in a decrease of 23% in the number of late payments as compared to the control group.

As such, with Konfío we designed a study to test the effectiveness of aligning loan payments with the clients' income payment dates. Also consistent with the research (Baugh & Wang, 2018) findings about the effect of the mismatches between the timing of income and expenditures, the delayed payment behavior of Konfío users suggested that their decision to pay up to 10 days late may have been related to an unavailability of funds on the exact payment date rather than an unwillingness to pay. Therefore, we agreed on the need to better understand the ebbs and flows in the balance sheets of Konfío's clients, as well as their potential interest in matching the dates of their credit payments with their available income and signing up to do them automatically via "domiciliación."

With these insights in mind, one of our hypotheses to explain why Konfío users were not making their credit payments on time was that there may be a gap or mismatch between the dates on which users had to make their credit payments and the dates on which they received their highest amounts of income. Therefore, we hypothesized that giving them the chance to select a payment date could help them reduce such mismatch, increasing the chances that they may set up automatic payments and thus make their payments on time. While this feature had been considered by Konfío in the past, their development timelines didn't align with our research initiative, making it unfeasible to test the intervention in the field.

Consequently, we designed a survey-based experiment to answer two research questions that would support Konfío's efforts to implement this feature within their regular credit process. First, we sought to identify whether there is truly a gap between users' credit payment dates and the dates on which they receive more income. We did so by asking participants the days of the month on which they received the highest amounts of income and comparing these dates with their actual payment dates with Konfío.

One of our hypotheses to explain why Konfío users were not making their credit payments on time was that there may be a gap or mismatch between the dates on which users had to make their credit payments and the dates on which they received their highest amounts of income.

Next, we sought to identify if participants, when given the chance, would choose a different payment date than the one they currently have with Konfío. To do so, we randomly assigned participants to 1 of 3 hypothetical scenarios: a control group, a group that could select their credit payment date, and a group that could select their payment date and received a recommendation to choose the date of their highest income. We measured whether they chose a different date, compared to their existing one, whether they chose dates closer to the dates they reported to have more income, as well as their self-reported probability of making payments on time and their intention to automatize payments.

Table 1. Survey Hypothetical Scenarios

Control	Date Selection	Date Selection and Tip
Imagine that you are taking a Working Capital loan for MX$300,000. Your credit has been approved and we only need to define the date in which you will make your MX$27,000 payments every month for 18 months. **Your payments will be made on the 2nd of every month.**	Imagine that you are taking a Working Capital loan for MX$300,000. Your credit has been approved and we only need to define the date in which you will make your MX$27,000 payments every month for 18 months. **On which day of the month would you like to make your payments?**	Imagine that you are taking a Working Capital loan for MX$300,000. Your credit has been approved and we only need to define the date in which you will make your MX$27,000 payments every month for 18 months. **Thinking about your income and expenses every month, on which day of the month would you like to make your payments?**

Lastly, we also asked participants if they recalled their current credit payment date, to validate that forgetfulness was not a barrier for making payments on time, and additional credit perception and demographic questions. These questions would help us understand any information biases or pluralistic ignorance drivers that could explain their challenges making payments on time or automatizing payments.

In view of the feasibility to reach users in the timeframe available, the study was conducted by Konfío through its own Google Forms platform to a total of 10,347 small and medium-sized businesses (PFAE) clients who had an active Working Capital loan. They also segmented users by whether they had had a delayed payment in the past 3 months, were currently delayed, or were up to date. The sample of borrowers who received the survey was randomly divided into 3 groups:

1. A control group composed of 3,440 users who were given a hypothetical loan scenario, but didn't have the chance to choose a loan payment date.
2. A first treatment group (which we called "Date Selection") made up of 3,461 users who were given the option to select a payment date for the hypothetical loan scenario.
3. A second treatment group (which we called "Date Selection and Tip"), with 3,446 users, who were given the option to select a payment date for the hypothetical loan scenario along with a message ("Tip") advising on the benefit of aligning payment dates with income dates.

RESULTS

Konfío received survey responses from 287 participants in total. Baseline randomization checks confirmed that participants were somewhat equally distributed across experiment conditions, and we didn't find significant differences in baseline characteristics between groups. These results suggests that responses to the survey were not influenced by the design of one specific condition, and rather respond to general attrition trends.

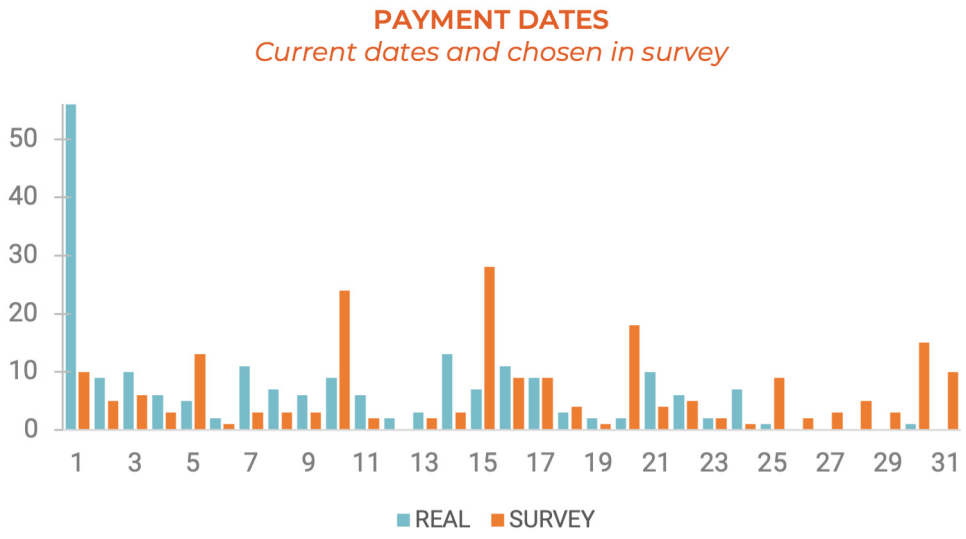
Table 2. Survey group characteristics

	Control	Date Selection	Date Selection and Tip
Responses	**81**	**107**	**99**
Gender: Male (%)	**62** (76.5%)	**78** (72.9%)	**71** (71.7%)
Age (mean, SD)	**47.54** (10.35)	**45.87** (10.31)	**44.84** (11.26)
Loan amount (MXN$, mean, SD)	**470,857.47** (587,834.29)	**430,722.79** (556,076.51)	**529,309.60** (541,300.97)
Loan period (months, mean, SD)	**18.89** (3.64)	**19.29** (3.63)	**19.55** (3.83)
Monthly payment (MXN$, mean, SD)	**22,051.78** (2,5398.68)	**19,937.06** (2,4368.08)	**25,256.97** (2,3419.36)
Loan interest rate (%, mean, SD)	**43%** (0.14)	**42%** 0.13)	**42%** (0.14)

People would choose a different payment date

When given the chance, people seem to report a preference to choose a different payment date, compared to the one that they were assigned for their existing loan. In fact, nine out of ten participants in the date selection groups chose a date in the survey that was different from their current payment date. Figure 1 compares the distribution of participants' existing payment dates with the chosen dates in the survey.

Figure 1. Distribution of current and chosen payment dates



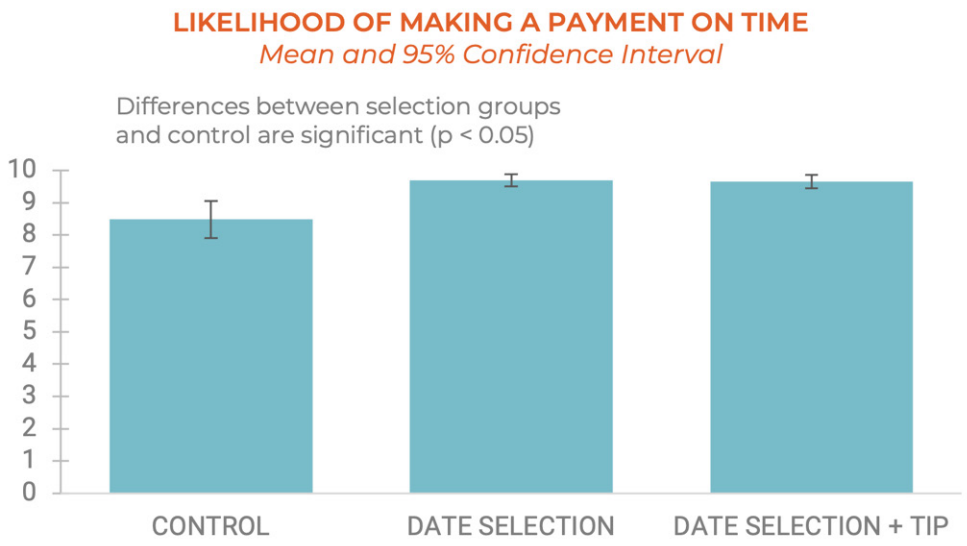
Interestingly, very few people chose to make a payment on the 1st of each month, even though this is the most common date assigned by Konfío among participants in the sample. Meanwhile, the graph shows that chosen dates follow more of a normal distribution, with peaks on the 10th and 15th of the month. A second pattern that emerges is the fact that most people chose round-number dates. Combining the 5th, 10th, 15th, 20th, 25th, and 30th of the month accounts for 48% of the chosen dates in the survey. Previous research has shown that people have a tendency to use round numbers as a reference, somewhat arbitrarily, even in high stakes situations such as sports performance (Ellen et al., 2016). As such, we hypothesize that these numbers could be reflecting a window of dates around the chosen date. Follow-up research could explore the reasons why participants choose these dates, to confirm or further explain this pattern.

Choosing a date might impact payment behavior

After presenting participants with the hypothetical scenario and giving some of them the chance to choose a payment date (with or without a recommendation), we asked them to report how likely it

would be for them to make a payment on time the following month, also in the hypothetical scenario. As Figure 2 shows, on a scale from 0 to 10, both date selection groups report a higher likelihood of making a payment on time in the following month, compared to the control group who didn't have a chance to select a payment date. While the differences between each selection group and the control group are significant ($p < 0.05$), we didn't observe a significant difference between both selection groups.

Figure 2. Self-reported likelihood of making a payment on time by conditions



These results suggest that giving participants the option to choose their payment date could be more important than the recommendation to align their payment dates with their income cycles. Moreover, choosing a payment date could be driving their intrinsic motivation by fostering their autonomy, as some studies have reported (Patall et al., 2008). However, giving participants the option to choose their payment date comes with an implementation challenge; for financial providers, allowing for multiple payment dates could increase the burden on accounting and collections teams, making it unsustainable in the long run. If choosing a payment date is a strong motivator, then the number of options might not be as important as the action of choosing. Follow-up studies could test whether the same results hold when participants are given a restricted number of options to choose from, a situation that aligns better with Konfio's implementation plans.

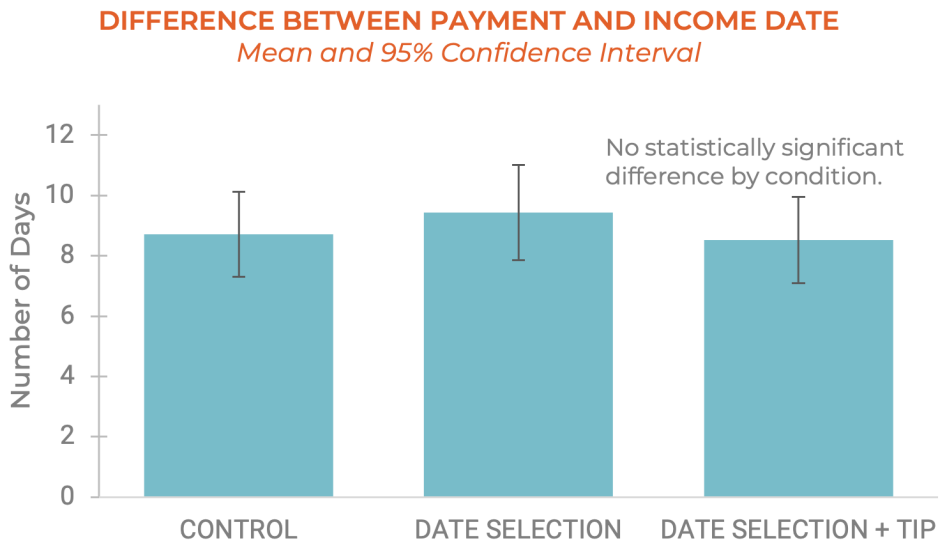
We also asked participants to report whether they would set-up automatic payments in their hypothetical loan scenario. We hypothesized that if participants chose to set them up, it would signal that the payment date they had chosen was aligned with dates in which they expected to have enough income in their accounts for the payment to be processed. However, results didn't show any significant

differences between conditions in the self-reported likelihood of setting-up automatic payments, and likelihood was high for all groups (9 out of 10). We believe that the high baseline rate of automatic payments in the sample (91% have automatic payments with their current loan) made it difficult to distinguish the influence of payment alignment from other variables. It could also signal that the alignment between payment dates and loan payments is not as straightforward as initially believed.

Chosen payment dates seem to not be aligned with income dates

To understand if giving participants the option to choose a payment date (with or without a recommendation) would allow them to align their payment dates with their income dates, we calculated the distances between both dates. The control group served as our baseline condition; we calculated the absolute distance in days between their reported highest income date and the current payment date with their existing loan. For the two selection groups, we calculated the absolute distance in days between their reported highest income date and the date they chose in the survey. While we hypothesized that both selection groups would be closer to the highest income date, and that the selection and tip would be closer than the selection group, we didn't find significant differences across conditions (see Figure 3).

Figure 3. Distance between chosen dates and reported highest income date



Up to this point, the evidence from the survey suggests that participants, when given the opportunity, would select a different payment date than their current one and, thus, be more likely to make payments on time. Nonetheless, they would not choose a date that is closer to the date in which they reported receiving their highest income deposit the previous month. These results suggest a line of research that could be explored further with Konfío.

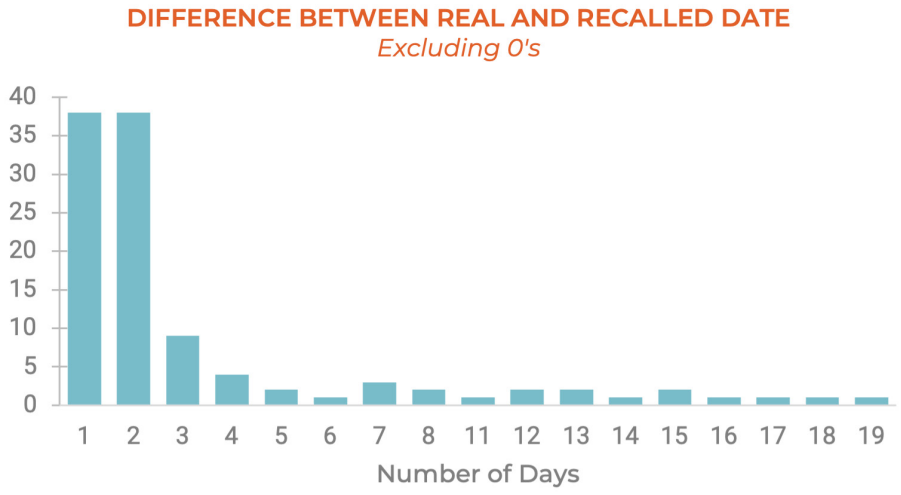
While the survey asked participants to report the date in which they received their highest income deposit the previous month, small and medium businesses tend to experience higher income volatility relative to larger businesses. This means that their income deposits, expenses, and revenue tend to fluctuate on a regular basis, in response to changes in the market, unexpected shocks and seasonality. As such, a plausible hypothesis could be that the dates they chose to make a payment, are not dates when they receive their highest income deposit, but when they receive a deposit large enough for them to make their loan payment. Alternatively, their chosen date could also respond to a different accounting strategy that was not reported in the survey. Understanding how these businesses manage their finances and payments could further support the design of an intervention that aligns their loan payments to their income cycles.

Previous research (Dahan & Nisan, 2022) has shown that misalignments between income and payments can generate significantly negative financial shocks for households with lower incomes. In face of the income volatility experienced by small businesses, adjusting financial products to their needs can go a long way.

There is an opportunity to make late payments more salient

Lastly, previous research has shown that people tend to forget payment dates – mostly due to our limited attention and cognitive bandwidth constraints –, but reminders can be effective at closing this attentional gap (Cadena & Schoar, 2011). To understand alternative reasons to people making late payments, we explored whether they could recall their current payment date and if they recalled having made a late payment in the past. Both answers were contrasted with administrative data from Konfío.

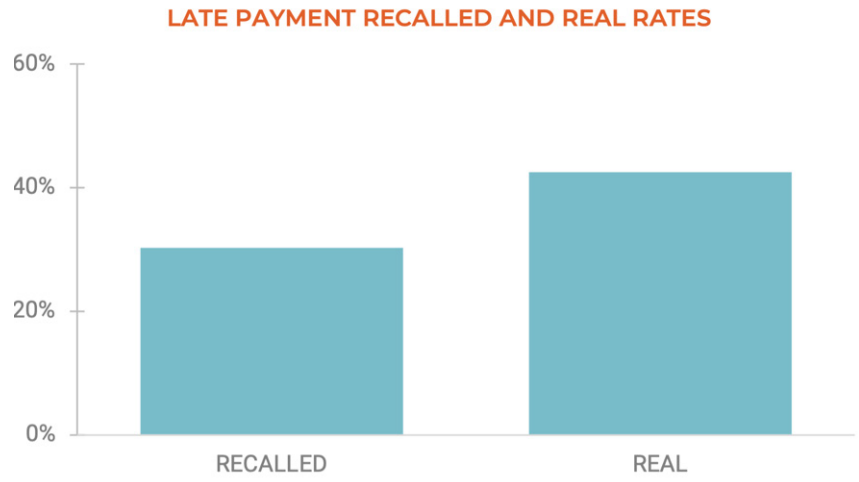
Figure 4. Absolute difference in days between the real and recalled date



Results from the recall questions show a good recall of payment dates. In fact, 62% of respondents recall their exact payment date, while 26.5% of them misremembered their date by 1 or 2 days. While remembering their dates could also mean that they were able to find the date and report it, it is still an indicator that their payment date was not unknown to them. Moreover, among those who misremembered their dates, there was an even split between remembering an earlier or later date (52.3% vs. 47.7%). In this sense, we believe that the saliency of the payment date might not be a barrier for making payments on time.

On the contrary, results did show an opportunity to make late payments more salient. When asked about having made a late payment in the past, 30.3% of participants said they had missed a payment previously, when in fact 42.5% of the respondents had made a late payment according to administrative records. Previous research has shown that making fines or penalties more salient (such as with a cover letter) can have a positive impact on driving behavior change (Dusek et al., 2022). In environments of information overload, it could be that some participants are not noticing the extra cost of their monthly payments (with interests and penalties), while making those more salient could help them repay their loans on time.

Figure 5. Share of participants recalling a late payment vs. Real rate



Konfío: Conclusions and implementation takeaways

☞ It is critical to test hypotheses before thinking about solutions

- Our experience pre-testing the hypothesis of aligning credit payment dates with income dates through a survey provided an opportunity for us to better understand the problem before launching a larger-scale intervention. Such a test allowed us to generate stronger context-specific evidence for our hypothesis, which helps to design more effective solutions when designing interventions.
- Moreover, there are gaps between what we say we do and what we actually do. Exploring these gaps can help us discover opportunities for possible interventions to facilitate the closing of such gaps, by making key information more salient and readily available to users.
- Financial organizations, like Konfío, have an opportunity to leverage their data and streamline engagement with their users. This would help them to identify behavioral patterns and test their intuitions to design more robust and impactful solutions that contribute to their users' financial resilience.

☞ Survey-based experiments serve as concept testing tools

- Behaviorally informed online experiments and surveys, such as the one conducted with Konfío in this study, can be an efficient vehicle to test out ideas and concepts in a quick and inexpensive way.
- This tool is potentiated with partners like Konfío, who already have systems in place to manage communications with their users and analyze their data to uncover patterns

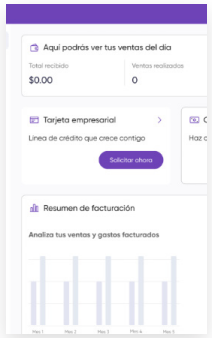
☞ Aligning payment dates with dates of highest flows of income

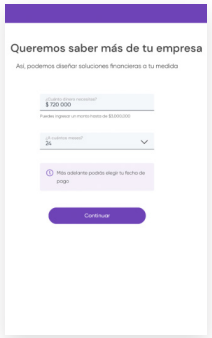
- Understanding how income volatility affects small businesses' financial decisions and financial resilience is a crucial challenge to identify more effective solutions to help them stay on track in their financial journeys. Aligning payments with income is a low-hanging-fruit opportunity that could pave the way for more impactful ones.
- Even more, fostering users' autonomy by providing them opportunities to make choices within their loan products could motivate them to make their payments on time and stay on track in their financing and business growth journeys.
- Combining these two insights, further explorations of small businesses' income volatility cycles and accounting behaviors could uncover an opportunity to help people in a cost-effective way by aligning credit payment dates with dates when users receive flows of income. Doing so could significantly increase the financial wellbeing and resilience of entrepreneurs.

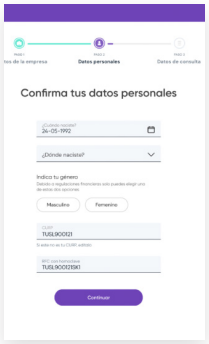
Konfío: New SME users who receive a loan from Konfío make their first payment on time

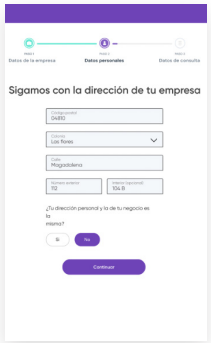
ACTIONS DATA / INSIGHT STRUCTURAL BARRIERS BEHAVIORAL BARRIERS

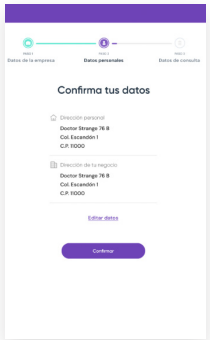
User applies for loan

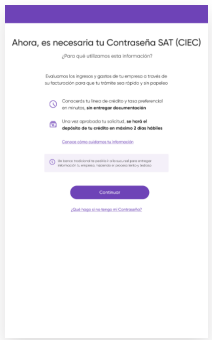












Access Konfío Dashboard and click on “Solicitar Ahora”	Share credit need	Enter personal information	Enter business address	Confirm information entered	Enter SAT Key (tax authority)
	Desired amount and repayment plan		Progress tracking doesn’t move		Unclear about the need for this information
	Anchored to maximum amount below box				Mistrust in sharing sensitive information
					Cognitive overload with amount of information

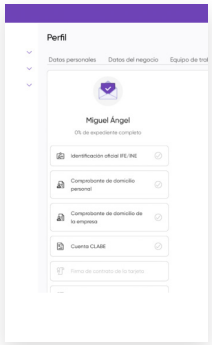
KEY:

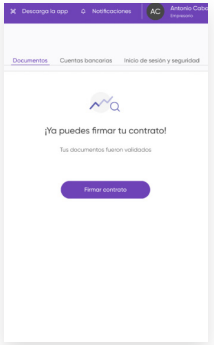
- DATA / INSIGHT
- STRUCTURAL BARRIERS
- BEHAVIORAL BARRIERS

Konfío: New SME users who receive a loan from Konfío make their first payment on time

ACTIONS | DATA / INSIGHT | STRUCTURAL BARRIERS | BEHAVIORAL BARRIERS

User applies for loan





User receives loan

User initiates payment process

Review and personalize credit offer; authorize data use	Upload documents to application portal	Sign contract after documents have been reviewed	User receives funds into account	User reviews payment date	User chooses payment method	User makes first payment on contract date
Most people apply for a larger amount	Verification of addresses, official ID, Tax Key	Unclear how long approval takes		Payment dates are assigned by Konfío based on application date	Cognitive overload	About 15% don't make their payments on time
User can't choose payment date*	Documents not readily available	If documents are not approved, no alert		About 40% have a payment date at the beginning of the month	Planning fallacy	Of late payers, 805 make a payment in the next 10 days
Payment plan needs to be downloaded as file	Confusion when transitioning to different dashboard	Complex information in contract		Limited attention		91% of clients who automate payments are up to date, compared to 55% of those who don't
Anchored to amount approved (higher than requested)	Unclear process	No summary of information		Payment not aligned with income		
Anchored to longest repayment plan by default						

*This is the primary barrier we focused on

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