CENTER FOR
ADVANCED HINDSIGHT
COMMON CENTS LAB

2017

ANNUAL REPORT

Common Cents Lab

Center for Advanced Hindsight
commoncentslab.org

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About

Common Cents Lab

Common Cents, supported by MetLife Foundation, is a financial research lab at Duke University that creates and tests interventions to help low-to-moderate income households increase their financial well-being. Common Cents leverages research gleaned from behavioral economics to create interventions that lead to positive financial behaviors.The Common Cents Lab is part of the Center for Advanced Hindsight at Duke University. Common Cents is comprised of researchers and experts in product design, economics, psychology, public policy, advertising, business administration, and more. The lab is led by Behavioral Economics Professor Dan Ariely. Ariely has written three New York Times bestsellers, including Predictably Irrational. To fulfill its mission, Common Cents partners with organizations, including fin-tech companies, credit unions, banks and nonprofits, that believe their work could be improved through insights gained from behavioral economics. To learn more about Common Cents Lab visit commoncentslab.org.

MetLife Foundation

MetLife Foundation was created in 1976 to continue MetLife's long tradition of corporate contributions and community involvement. Since its founding through the end of 2017, MetLife Foundation has provided more than $783 million in grants and $70 million in program-related investments to organizations addressing issues that have a positive impact in their communities.

In 2013, the Foundation committed $200 million to financial inclusion, and our work to date has reached more than 3.5 million low-income individuals in 42 countries. To learn more about MetLife Foundation, visit metlife.org.

Dear Reader,

With the second full year of Common Cents Lab in the books (in this book, to be more precise), there is much progress to acknowledge. While Common Cents Lab is a research entity, its work does so much more than create interesting research. It creates easier, more intuitive ways for people to save – which is something that most people say they want to do, but find difficult.

In 2017, twenty-seven organizations worked with Common Cents Lab to design products or outreach strategies that have helped nearly 500,000 low- and moderate-income Americans thus far. The organizations' projects are varied. Some helped people save in the most traditional sense; others surfaced ways for individuals to decrease their debt and expenses. In the experiments conducted thus far, more than $10.5 million went into the pockets of real people. While often in increments of $20 at a time, this savings total is a starting point to financial security for more people.

At MetLife Foundation, we believe in the power of understanding human behavior and designing products, services and interventions that help people spend less and save more – in a way that's profitable for providers at the same time. That's why we support Common Cents Lab. We think these experiments are just the beginning – as each partner organization continues to apply what it's learned about human behavior, there will be more ways for low-income people to continually improve their financial health.

Talking to one of the Common Cents cohort members recently, I was told, "I got funding and great fintech knowledge from an accelerator program; but I got growth and scale by understanding customers – and that was from working with Common Cents." It was such a great reminder that all of us working in the financial health space (whether you call it financial inclusion, asset building or something else) are dependent on each other to succeed in our shared goal: helping real people achieve their aspirations by creating and delivering financial services and tools that make "managing your money" less time consuming and easier.

MetLife Foundation supports financial inclusion and financial health in more than 40 countries, working with more than 150 partners. In addition to our grantee partners, we've also heard from many not-for-profits, credit unions, regional banks, tech entrepreneurs, academics, students and others that they have found this annual report to be a useful tool. We encourage you to read the report, share it, and do something to make good financial decisions feel like common sense for more people in the U.S. and abroad.

Evelyn Stark
MetLife Foundation

Executive Summary

2017

In 2017, the S&P 500 reached historic peaks, the unemployment rate hit a low of just 4.1%, the poverty rate decreased to 12.7%, and median household income has risen by 3.2%. Yet, these positive macroeconomic trends accompany widening income and wealth inequality, where large swaths of the population are being left behind. The personal savings rate for the bottom 90% of households in the United States is 0%, credit card debt has reached more than $1 trillion for the first time since the Great Recession, an estimated 40% of people 5-10 years from retirement have no money saved, and 1 in 3 Americans have debt that is currently in collection.

Unemployment rate hit a low of just **4.1%**, the poverty rate decreased to **12.7%**, and median household income has risen by **3.2%**.

To quote Charles Dickens,

"It was the best of times, it was the worst of times."

Furthermore, more and more Americans are moving out of traditional employment and into the gig economy. This means that they have less access to insurance, benefits, and the financial security often provided by employers.

This complex financial environment sheds light as to why Common Cents Lab is needed. Everyone aims to be financially stable, but not everyone has the right decision-making environment to accomplish this goal.

Our Focus

Common Cents Lab is a financial-decision research lab at Duke University that creates and tests behavioral economics interventions, with the mission of improving the financial well-being of millions of low- to moderate-income (LMI) individuals. Common Cents is generously supported by MetLife Foundation.

Now in our second year, we continued to use social science and behavioral economics to tackle the most challenging financial issues, for the most vulnerable households in the United States. Our talented team of researchers, data scientists, designers, and product managers, work across five core areas:

- Increasing Earnings
- Managing Cash Flow
- Decreasing Expenses
- Managing Debt
- Increasing Long- and Short-Term Savings

Increasing Earnings

Managing Cash Flow

Decreasing Expenses

Managing Debt

Increasing Long- and Short-Term Savings

We achieve our mission by partnering with mission-focused organizations, creating financial prototypes, and sharing our insights with the world.

Our Impact

In 2017, we partnered with 27 organizations, including startups, credit unions, nonprofit organizations, and local governments. This number is up from 2016, when we partnered with 17 organizations. Our work typically falls under two types of projects – prototypes and optimization. Prototypes are projects that result in building a product or service that did not exist before.

> In 2017 we worked on 38 prototypes and optimizations

Optimization projects are those that help partners improve an existing product or service. For both types of projects, we run randomized controlled trials in order to fully understand the true impact of our work.

In 2017, we worked on 38 prototypes and optimizations, up from 19 in 2016. We launched five pilot prototypes, and ended the year with seven additional projects in development. In addition, we finished and tested 18 pilot optimizations, with eight more either in the field or in development.

In addition to the projects that we started in 2017 projects, we continued to push our 2016 initiatives from pilots to full rollouts. It's important to note that in our original proposal we estimated that we would work on three prototypes and five partnership optimizations.

Since our launch in 2016, our 57 pilot optimizations and prototypes have reached over 1.7 million individuals and positively impacted the financial behaviors of 498,000 low-to-moderate-income individuals. At full rollout, we estimate that these projects will reach 4.4 million people, and positively impact the financial behaviors of 1.4 million individuals.

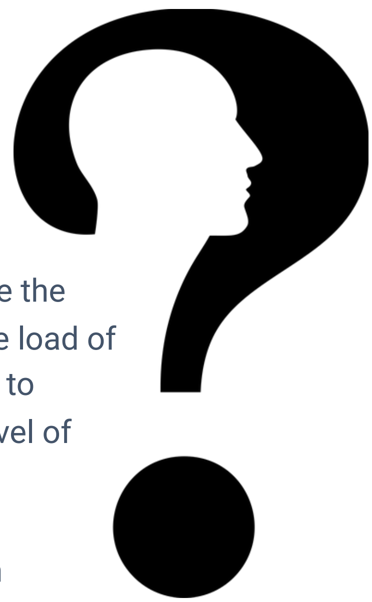
It is important to note that this estimation of our impact does not include any possible expansion of our pilot prototypes or optimizations to additional partners, or any indirect impact we may have obtained from the practitioners who attended our conferences, office hours, or webinars.

Our Eight Key Highlights

Since launching Common Cents Lab in 2016, our work on over 50 pilot experiments and prototypes has led us to develop eight key insights that can help practitioners improve the efficacy of their products.

57 PILOT EXPERIMENTS

1. Just Ask!: *"If you don't ask, the answer is always no." – Nora Roberts*



We have a limited amount of attention. Interventions that manipulate the salience of a specific opportunity help to break through the cognitive load of daily life. We found that just asking clients to do something is a way to increase an opportunity's salience and can lead to some baseline level of behavior change.

For example, we utilized this learning with our first engagement with EarnUp, an automatic payments company. In this experiment, we sent out two version of the same email with the goal of getting homeowners to increase their mortgage payments. Even our control email (which contained no incentives, and yielded the lowest conversion), resulted in 11% of users who opened the email signing up to increase their payments. During a separate email experiment with Payable, an invoicing service to pay contractors, we found that simply asking users to start saving for an upcoming tax bill led to a 13% sign-up rate.

13% of tax filers text at least one person a photo of their referral card

Our "just ask" finding seems to impact behavior in the physical space as well. During the tax season, we asked about 2,590 filers to submit a referral to encourage their friends or family to use the free tax site.

Even in our control condition, where there were no additional incentives, 13% of tax filers text at least one person a photo of their referral card.

In an experiment with Latino Community Credit Union, we focused on increasing short-term deposits at the point when members cashed their check. Traditionally, when members cash their full check they are never asked how much of it they want to deposit. We decided to start asking. In our experimental condition, we had members fill out check cashing slips that required them to note how much they wanted to put into their account. This intervention led to roughly 9% of members depositing roughly 22% of their paycheck, instead of cashing the entire check.

2. **Time the Ask Well!:** *"Timing is everything" – American Proverb*

The next step is to time the ask well by thinking through a user's frame of mind. Elaborate effort is often put into designing product features or crafting marketing materials, but behavioral research suggests that we may be missing a key piece of the puzzle – timing. When we ask people to make a decision can influence the outcomes and should be considered in early design phases.

For example, in partnership with Digit, a savings app, we focused on increasing savings at tax time. In one condition we asked users to save at the moment that they received their tax refund. In a second condition we asked users to save before they've even filed their taxes.

The latter condition was most effective, increasing tax time savings from 17% to 27%, resulting in a 58% increase. Why? Because in the future we are our perfect selves; today, we are full of temptations.

Pre-commitment increased tax time savings from **17%** to **27%**, a **58%** increase

In another experiment with St. Louis Office for Financial Empowerment, we focused on increasing parents' participation in the city's universal college savings accounts. In one condition, we sent parents a letter via mail and in the other condition we sent parents the same letter in their children's backpacks. In the letter, we specified their next step, either returning an attendance consent form or making a deposit. Sending the letter via the child's backpack was slightly more effective, increasing parental action by 53%, from 3.19% to 4.88%. Notably, the low parental response rate across the board suggests that the positive impact we saw is only just starting to chip away at the multitude of barriers that parents face. We do believe one of the reasons for this small increase in parental engagement is that we changed the timing of when the parents would read the letter. In one condition, parents read the letter when they were sorting through bills or junk mail or and in another condition, they read the letter when they were engaged with their child.

3. Remind Them!: *"Men more frequently require to be reminded than informed." — Samuel Johnson*

Now that you've asked your members, clients or users to do something, remember that they are living full lives! We can all benefit from a reminder, especially if it's a reminder about something we want to do but isn't easy, fun, or pressing.

For example, through our partnership with Robin Hood Foundation, we partnered with Ariva, a free tax preparation site in the Bronx. We created a simple text message reminder, and sent it to their existing client base, reminding them to come back to Ariva to get their taxes done for free. This simple intervention increased attendance by 12%, from 33% to 37%.

4. Make it Easy to say Yes and Hard to Say No!: *"The sweetness of doing nothing." – Italian Proverb*

We want to make it as easy as possible for people to say "yes" to the ask: so easy that it approximates doing nothing. For example, we partnered with Self-Help Credit Union to help increase retirement savings.

For new checking account holders who weren't already saving for retirement, we bundled their checking account with a retirement savings account that automatically received a percent of every checking account deposit. Account holders could always opt-out and close the retirement savings account. In our early pilots, we've found that 37% of eligible members decided to enroll and almost 80% of enrolled members have kept their account active.

In another example, we worked with Latino Community Credit Union to help borrowers round up their loan payments to the nearest $25 or $50. The extra payment is then transferred to a savings account that the borrower can access at any time. We gave everyone this option and then allowed them to opt-out of the program. We saw a 26% enrollment rate. This is astonishing as we were asking members to pay extra every month. We also had another condition in this experiment; we made it harder for borrowers to say "no" to enrolling in the loan program. In our experimental condition, if people wanted to opt-out of the round up program they had to check a box that read “I don’t want to have $[1000] in savings by the end of my loan payment period.” This loss aversion framing highlighted what borrowers would be losing by opting-out, and increased enrollment rates by 46%, from 26% to 38%.

5. Give People a Reason to Act Today!: *“Vagueness and procrastination are ever a comfort …” - John Updike*

Now let’s focus on making the ask tangible and real. Ambiguity is your enemy. Many times we aren’t motivated to act for the ‘right’ reasons. We are instead motivated by immediate rewards.

Getting people to improve their finances because of the long-term virtues of financial health is a difficult challenge, providing a more immediate reason to make a change today could make that easier.

Deadlines are a quick and easy way to incentivize behavior today (not tomorrow). For example, in one of our experiments with Kiva, a no-fee lender, we increased loan application completion rates by 24%.

Another way to incentivize behavior today is by making the benefits and the progress both concrete and tangible. As we mentioned earlier, we worked with a free tax-preparation site in Queens, New York called Urban Upbound to increase referrals. We asked people who had just filed taxes to refer their friends and family. For some people, we asked them to refer without any incentives. For others, we offered additional motivation – free lottery tickets. If their friends and family came to the site, the filer and the friend were eligible to split the winnings.

The lottery increased the number of people who made a referral from 13% to 18%. Furthermore, if friends and family received a tangible, physical ticket (not just a promise of a lottery ticket), the number of people who came in from a referral increased five-fold.

The lottery increased the number of people who made a referral from 13% to 18%

In another experiment, we partnered with the Community Empowerment Fund (CEF), a poverty alleviation non-profit, to increase short-term savings. In one condition, members made their savings deposits work toward a savings goal. In another condition, members were given a punch-card where CEF marked each time they made a deposit toward a savings goal.

Over six months, members in the control condition saved 33% of their goal, while members in the punch-card condition saved 49% of their goal. The punch-card helped to visualize the progress and make the goal more concrete.

6. Make it Social!: *"The wisdom of crowds." -James Surowiecki*

Financial decisions are complex and difficult. Given this complexity, we often look to those around us to get guidance about what we should do. We utilized this principle of social norms in a number of experiments.

First, we partnered with Ariva, the free-tax preparation site in New York City, to get people to save part of their taxes. We edited some of the forms to include explicit social proof, stating that most people save 25% of their refund.

This intervention led 9% of filers to check that they wanted to save 25% of their taxes, compared to just 3% in the control. In other conditions, we used implicit social proof, stating that it was not recommended to save 0%. This intervention increased behavioral intentions to save from 22% to 29% of their tax refund, a 32% increase.

In a related tax-time experiment, we partnered with another free-tax preparation service provider, United Way of Tucson and Southern Arizona. For this experiment, we wanted to increase the number of people who used the scan-and-go filing service, Valet VITA.

In one condition, we gave people implicit social proof, stating who should use Valet VITA (i.e. busy people who need to get back to work). The decision aid increased use of Valet VITA from 16% to 28%, a 75% increase.

Lastly, we partnered with a discount company called CoinFlip to increase the number of people who get grocery discounts. In our email experiment, we had two conditions. One asked users to sign up. The other asked users to claim their discounts. This is a common technique used by organizations to get people to spend more. Could we use this tactic to help people spend less? The claim messaging increased open rates from 26% to 31% and click-through rates from 11% to 15%, leading to a 19% and 32% increase, respectively. We believe one of the reasons the claim messaging outperformed is because the word “claim” signals both a sense of ownership and scarcity.

7. Make Use of Existing Mental Models!: *"Don't push the river, it flows by itself." – American Proverb*

We often have existing mental models for how we think about our finances. We can utilize these pre-existing mental models to help people improve their financial well-being.

For example, many of us think about our auto loan payment as roughly being $250, not, $242.13. To take advantage of this, we asked EarnUp consumers to pay a little extra on their loans by "rounding up" their payments to the nearest $50.

This "round up" framing led to a jump from 11% to 15% of users increasing their payments; that is a 35% increase in people paying off their mortgage faster. As we discussed earlier, we used a similar framework with Latino Community Credit Union to help borrower's round up their loan payments to the nearest $25 or $50 and put the extra payment into a savings account.

Aside from rounding up, we often think about our budgets on a weekly basis. Yet, we often get paid on a monthly or a bi-weekly basis, increasing the difficulty of budgeting. To help users budget for food, we partnered with Propel, a fin-tech app for those receiving SNAP (Supplemental Nutrition Assistance Program) benefits, formerly known as food stamps. We found that providing users with a weekly recommended budget helped to smooth out their consumption by extending their snap benefits by two to three more days.

Lastly, employees and workers are used to thinking about their wage either on an hourly basis ($15/hr) or an annual basis ($30K / year), depending on how they are paid. Research in our lab suggested that when people are told their wages in hourly terms, it puts people into a short-term mindset while putting their wages in annual terms puts them into a long-term mindset.

We utilized this framing to help independent 1099 workers to save part of their income towards retirement. Of the users who clicked on the email, 56% opted to save when they were told how much they would likely earn this year compared to just 43% when they were told the average they were making per job.

8. Not everything works as we hope!:

"What you think is right isn't the same as knowing what is right." E.A. Bucchianeri

We are researchers. As such, we try to test our intuitions and assumptions every chance we get. And sometimes, our intuitions are wrong. And that's where we get excited! It reminds us of the importance of testing. We learned key lessons from some of our notable experiments with some great null results.

As discussed earlier, we partnered with Ariva, a free-tax filing site in the Bronx, to help filers save part of their taxes. We changed the deposit forms to include both explicit and implicit social proof. While our intervention did impact behavioral intentions, it did not impact actual savings rates. We didn't make it easier for people to save. In order to save, the tax preparer, the volunteer that completes the person's taxes, needs to file an extra form (Form 8888). We found that many preparers didn't know about the Form 8888 and if they did, they were hesitant to add another step in the process. This was a somber reminder that we had only addressed one small barrier, which wasn't the largest or most important barrier to tax-time savings.

PROMISE INDIANA

In a second example, we partnered with Promise Indiana, a youth development organization, to remind parents to make deposits into their children's savings account (CSA) balances. We sent thousands of reminder postcards, varying the message across three different conditions. When compared to a control group that did not receive a postcard, none of our experimental conditions increased deposit rates. Even if you received a reminder to make a deposit, the process to make a CSA contribution is still cumbersome.

We also partnered with Duke Federal Credit Union to help members increase their short-term savings. In our experiment, new members were automatically given a "Rainy Day Savings Account", which members could refuse if they wanted to. While over 50% of members kept the savings account, we found little impact on actual savings behaviors. We made saving a bit easier, but we didn't fully automate ongoing deposits. It still took effort to save.

> ...over 50% of members kept the savings account, but it has had little impact on actual saving behavior

We partnered with Navicore, a credit counseling agency, to increase the number of people who sign up for the service. We changed the counselors' scripts to convey expertise and empathy. Our intervention increased trust in the counselors, but it didn't increase conversion rates to Debt Management Plans (DMP). While building trust was important, our results suggests that there are other barriers that need to be addressed. Participants may still have concerns about what a DMP will do to their credit scores, their cash flow, or their access to credit.

Lastly, we ran a study with Digit to increase savings at tax-time, which increased tax-time savings rates. In that experiment, we included conditions that changed the way in which we talked about the refund. In one condition we discussed the tax refund as "getting some of your hard-earned money back." This framing received lowered savings rates. We tried to go against existing mental models of how we think about our tax refunds (bonuses vs. refunds), and it backfired.

Dissemination of Research

A core part of our mission is to disseminate our research broadly to practitioners to help them apply our insights to their own work. To this end, we hosted two conferences in the U.S. with over 105 industry experts from 53 different organizations, four webinars, five summer series, and 16 office hours with promising fin-tech organizations. In addition, we've released six press releases, written 11 articles, and were mentioned across 27 media outlets including Bloomberg, Scientific American, Forbes, and TechCrunch.

We've also presented at over 30 national conferences for academics and practitioners alike. Our work is also being used to teach business students both at Stanford's Graduate School of Business and Harvard Business School.

Conclusion

This report covers all of our 2017 projects, detailing our processes, original hypotheses, experiments and results. We encourage you to read through each case study and ask yourself how you can apply the insights to your organization.

Going forward into 2018, we are excited to continue our work with our 2018 cohort. Over 100 organizations applied, and after a rigorous screening process, we expect to partner with 10-15 organizations, including credit unions, startups, non-profits and local governments.

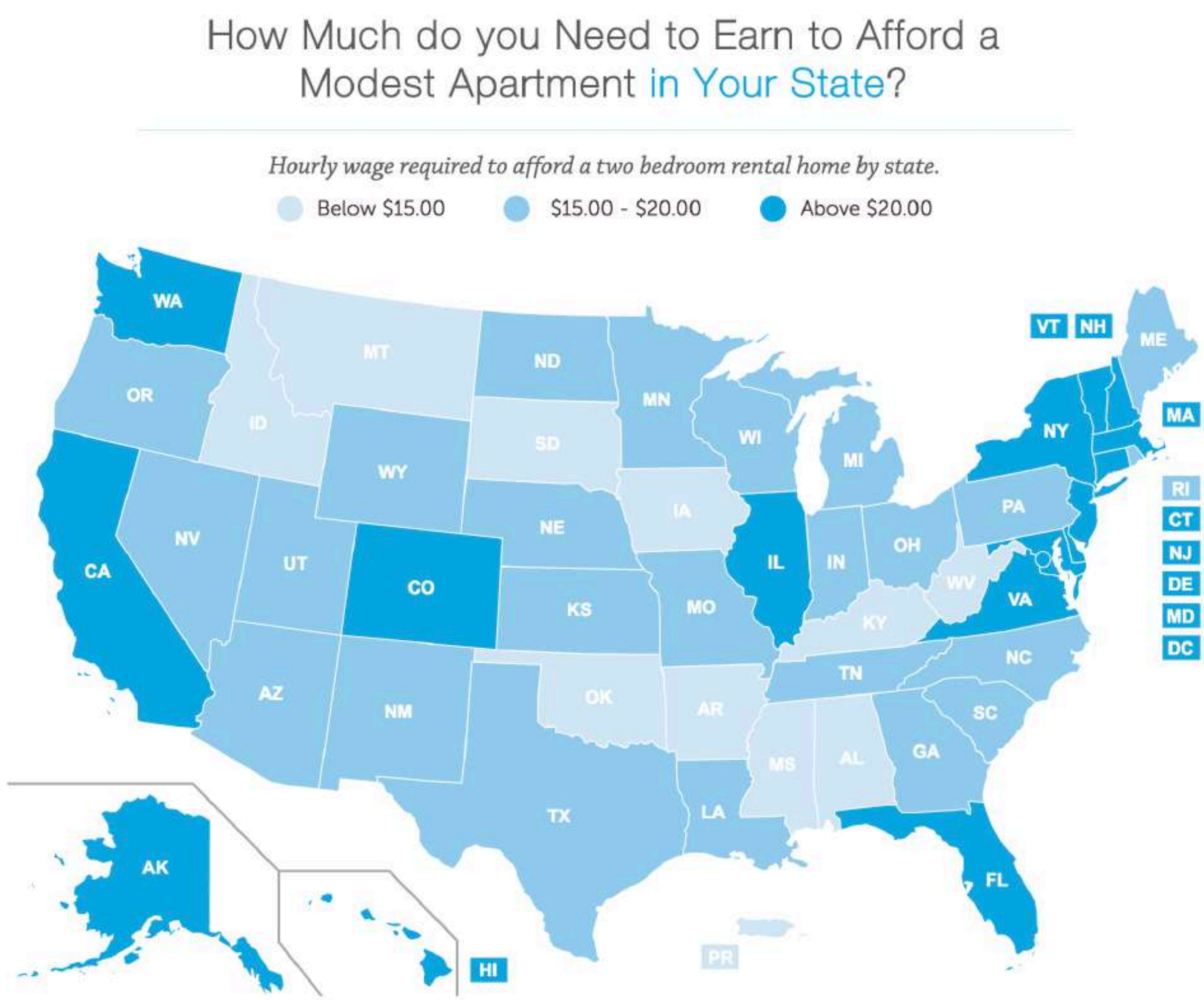
Interested in learning more?

- Sign up to our mailing list on CommonCentsLab.org to stay up to date on our latest findings.
- Apply to attend our 2018 conferences.
- Please reach out to wendy@commoncentslab.org.

Increasing Earnings

2017

We have seen that at every income level people can and do find small ways to save for their future. However good savings habits by themselves cannot deliver financial health. Instead we must also look to drive earnings and put more money in people's pockets. Sadly, the cost of living in a majority of the United States exceeds what can be earned full time on a minimum wage. People living in the U.S. are still struggling to get by, despite working more than ever.



To help individuals achieve income stability, we are focusing on increasing earnings for the most vulnerable populations: elderly populations without a sustainable income, hourly workers subjected to schedule variability, and Supplemental Nutrition Assistance Plan (SNAP) applicants.

To help these populations, we partnered with four organizations launching four experiments. Here are some of our key takeaways:

1. **We can help older adults increase their earnings by indicating that an "age milestone" is pending and that they need to take action now to change their circumstances.** In our experiment with Silvernest, a company that helps seniors find and share housing, we found that seniors expressed more interest in potentially renting out a spare room and earning extra income when ads included "age milestones" (i.e. You are 64 turning 65). Our experiment doubled click-through rates on Silvernest's ads from 2.49% to 5.49%.

2. **We can some help seniors search for "gig economy" jobs if we appeal to their values, but there is more work to be done.** We worked with AARP's job site to help seniors find additional income through gig economy jobs such as Uber and Task Rabbit.

   Our intervention asked visitors to first answer questions about their values and then search for a job. Roughly 46% of the seniors who made it through the entire intervention clicked to learn more about a specific job opportunity. The effect of the additional friction added to the flow by the values questions was more impactful than the additional motivation provided by the values questions, resulting in lower completion rates in our experimental condition (10%) than in our control (24%).

3. **Reminders are not a quick fix.** We worked with Homebase, a scheduling app for small businesses, to increase on-time attendance rates by hourly workers. Roughly 50% of Homebase employees have missed more than 7% of their total shifts in the previous 90 days. We ran a five-condition experiment to see if sending employees reminders about their upcoming shifts would help drive employees to show up more often and show up on time. However, none of the five conditions outperformed the control condition, which did not send reminders. We will be following up with qualitative interviews to examine other barriers to on-time attendance that may be at play.

   We also worked with Robin Hood Foundation and Benefits Data Trust (BDT) to test if reminders about deadlines and forms could help SNAP applicants complete their application. Currently, over half of applicants don't complete their application. The results from this experiment are still pending.

Our research in this area is in its early stages. We're continuing to explore how to help people increase their earnings.

Using age milestones to motivate behavior

2017
Silvernest

Partner Type: Startup

Partner Cohort: 2017

Project Type: Optimization

Project Status: Completed

According to Stanford's Center on Longevity, seniors are the segment of the population with the greatest financial security. Social Security and pension plans help keep non-income earning seniors out of poverty. However, with rising cost of living and the erosion of defined benefit plans, the financial future of this segment of the population is uncertain. In a recent study by the Institute on Assets and Social Policy, over one-third of senior households incur debt or have no money left over after meeting essential expenses. In other words, there is no wiggle room for these seniors.

To help older adults earn more money, we partnered with Silvernest, a company that matches older homeowners with potential renters.

This is a win-win situation for both parties. The homeowner gets extra income, while the renter has access to low-cost housing. In addition, they both find companionship. This is not a trivial point since numerous studies have linked companionship to longevity.

Behavioral Diagnosis and Key Insights

When we analyzed Silvernest's entire membership base and sign-up flow, we found an imbalance between the supply and demand in their market place.

Silvernest had many more renters than homeowners. In order to ensure the success of their platform, Silvernest needed to attract more homeowners to list their homes.

Experiment

To increase the number of homeowners to the site, we relied on existing research on milestones. Research from Adam Alter and Hal Hershfield shows that people are more likely to engage in life-altering behaviors when they approach a new decade in age (e.g., at ages 29, 39, 49, etc.).

It seems that when people approach a new decade, they feel the need to figure everything out. We wondered if the same "age milestone" principle could work for the age of 65.

We ran ads targeting 64-year-olds on Facebook in three different markets. We randomized the 64-year-olds between two conditions. In the control condition, the ad read "You're getting older. Are you ready for retirement? House sharing can help." In the experimental condition, the ad read "You're 64 turning 65. Are you ready for retirement? House sharing can help."

Control Condition	Experimental Condition

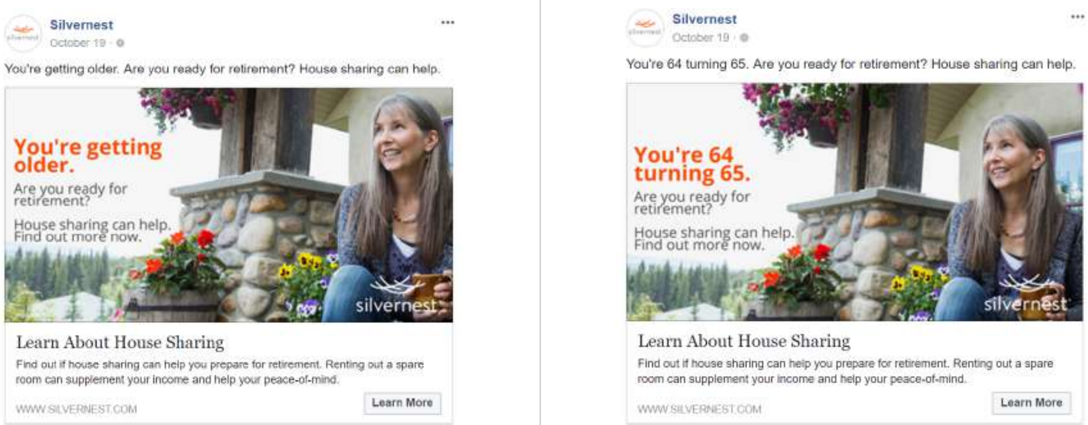


Figure 1: Facebook ads by condition

Results

Our Facebook ads ran for four days, reaching close to 75,000 64-year-olds. Our main variable of interest was click-through rates across both conditions. Interestingly, our experimental condition more than doubled click-through rates. The experimental condition received a 5.49% click-through-rate, compared to a 2.46% click-through rate in the control condition (theses differences were statistically significant at $p<.001$). These click-through rates are astonishing, considering that the average click-through rate on Facebook is lower than 1%.

> **5.49%** click-through-rate, compared to previous 2.46% click-through-rate.

Control Condition

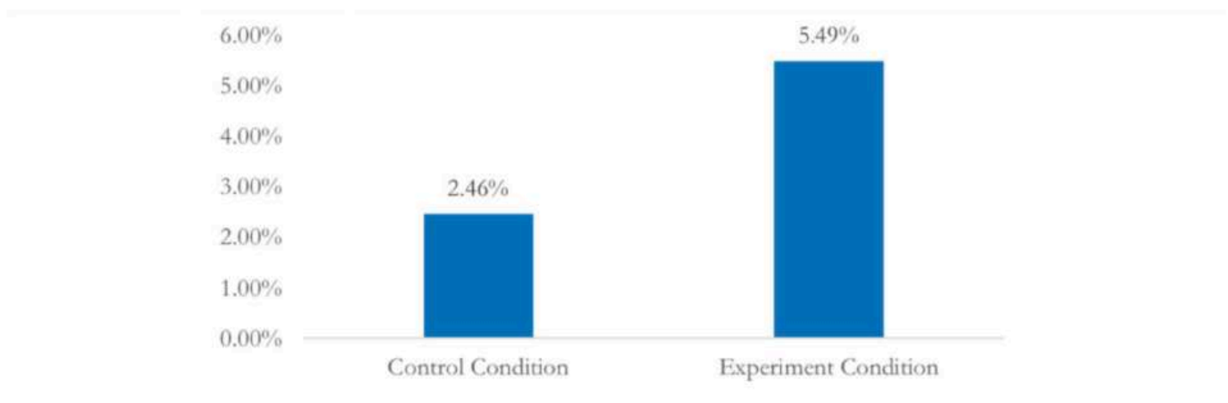


Figure 2: Click-trough rates by condition

Impact

Based on the results of this experiment, Silvernest has changed its advertising strategy, and is now targeting specific age groups. Since these changes were implemented, they've seen higher homeowner sign-up rates. In 2018, we will continue to experiment with age milestones to understand if the effect can be replicated for other age groups.

Using "age milestones" more than DOUBLED click-through rates on our ads

— *Silvernest*

Can focusing on values increase job-behaviors?

2017
AARP

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

According to the Government Accountability Office, the American retirement system designed to help workers and retirees faces major challenges in the days and years ahead.

The average American does not save enough for a comfortable retirement; nearly half of all families have no retirement savings at all. Additionally, Social Security, faces long-term funding challenges, and may not provide adequate income for millions of older Americans who depend on the benefits for most or all of their income.

To combat this crisis, we reviewed, and performed a survey around an AARP project focused on helping people over 50 earn extra money through flexible contracting work. AARP's "Extra Money" webpage educates users around gig economy jobs, like Uber or TaskRabbit, based on their skillset ("I can...") and what they enjoy doing ("I like...") as well as the potential pros and cons of certain gig economy jobs.

Behavioral Diagnosis and Key Insights

We conducted a behavioral diagnosis of the "Extra Money" website and noted the following key insights:

There were several questions in the skills assessment tool. There were over twelve questions for users to answer regarding their skills and interests before they were presented with potential job opportunities. We worked with AARP to decrease the number of questions, reducing unnecessary barriers, while still allowing users to attain enough information to take action.

1. **There were several questions in the skills assessment tool.** There were over twelve questions for users to answer regarding their skills and interests before they were presented with potential job opportunities. We worked with AARP to decrease the number of questions, reducing unnecessary barriers, while still allowing users to attain enough information to take action.

2. **The website focused on educating users on job opportunities but was less effective in communicating how to take action.** Once a user determined a gig opportunity might be right for them, without a deadline or a reason to act in the short term, we hypothesized that users would be in a "discovery" mindset versus an "action" mindset when searching through the potential jobs. We designed an experiment to test our hypothesis.

Experiment

We focused on trying to increase users' intrinsic motivation to apply for job opportunities if such opportunity made sense for the individual user. We hypothesized that getting users to list their life values and internalize why getting a contracting job could fit in with those values might lead to higher intrinsic motivation.

To test if framing jobs in terms of values would increase the number of users clicking on a specific job opportunity, we modified AARP's search tool. In the control condition, users answered four questions, detailing their likes, resources, willingness to engage in certain activities, and skill sets. In our experimental condition, users took an additional survey with two questions on their values and then answered the same four questions as is in the control condition. Approximately 15,500 users entered our experiment.

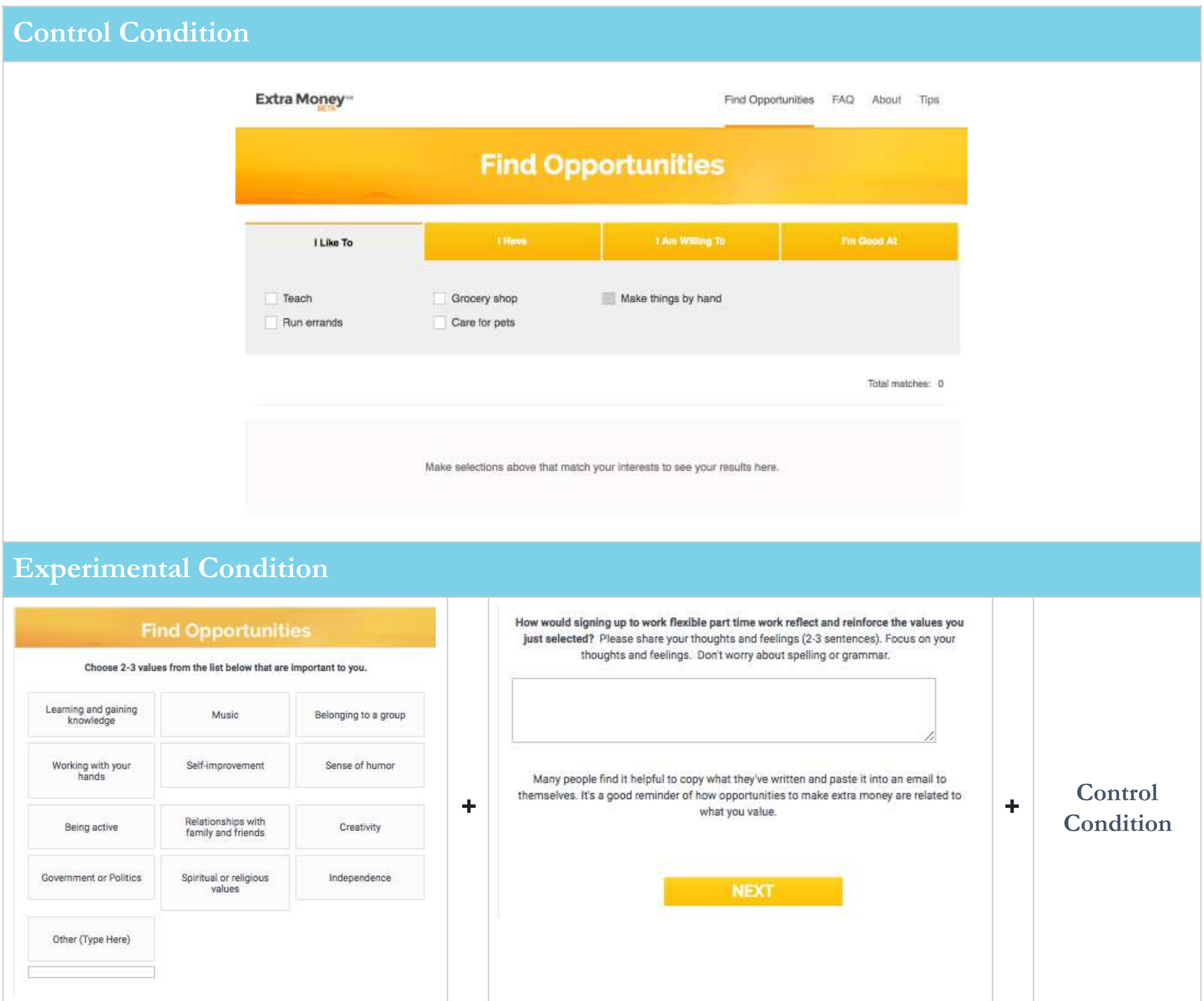


Figure 3: Questions by condition

Results

First, we analyzed conversion rates across the two conditions, measuring the number of people who successfully searched for a job. Our control condition generated a 24% conversion rate. In contrast, our experimental condition generated just a 10% conversion rate, driven by a high drop-off rate at the start of our two-question survey. If users completed our two-question survey, however, our conversion rate increased to 46% (note: this result could be attributable to a self-selection bias). In short, when users pass our survey, they become more engaged and are more likely to successfully search for a job. The effect of the additional friction added to the flow by the values questions was more impactful than the additional motivation provided by the values questions, resulting in lower completion rates in our experimental condition.

Our control condition generated a **24%** conversion rate; our experimental condition generated just a **10%** conversion rate

1. The most important self-reported values were relationships with family and friends, independence, and learning new skills.
2. The least important self-reported values were music, government or politics, and belonging to a group.
3. Respondents cared more about having a flexible schedule than about earning more money.
4. The most common words used in the open-text question were “can” and “like”, as people described what they are able to do and what they enjoy doing.

Impact

The AARP Extra Money team plans to use our results and learnings to improve the search function and language used on their website.

Can shift reminders increase attendance rates for hourly employees?

2017
Homebase

Partner Type: Startup
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

According to J.P. Morgan's Weathering Volatility report, almost four in ten individuals experienced a job transition in a given year, which makes up 14% of the month-to-month volatility in labor income.

There are many reasons people lose or change jobs, but not showing up to work or being late consistently fall in the top reasons for termination. According to a CareerBuilder survey, more than half of employers expect employees to be on time every day, and 41% have fired someone for being late. The next logical question is: why are people late or missing work? Is it because they are intentionally trying to shirk on work? Or, perhaps more likely, people forget or don't plan well. The alarm isn't set, or traffic is heavier than usual.

To help employees show up and show up on time, we partnered with Homebase, a scheduling application that helps employers schedule and employees know when to come to work.

Behavioral Diagnosis and Key Insights

We reviewed shift attendance rates of over 100,000 employees in Homebase's database and determined that attendance in particular was an issue for employees. Roughly 50% of Homebase employees have missed more than 7% of their total shifts in the last 90 days. Not only does this put the late employees at risk of termination, but it also has a major negative impact on their coworkers who do show up, who now have shorter breaks and longer shifts.

Roughly **50%** of Homebase employees have missed more than **7%** of their total shifts in the last **90 days**

Experiment

Our intervention was simple: we reminded employees about their shifts. Reminders have a long history in the behavioral sciences of helping people remember to vote, save money and get vaccinated, among other things.

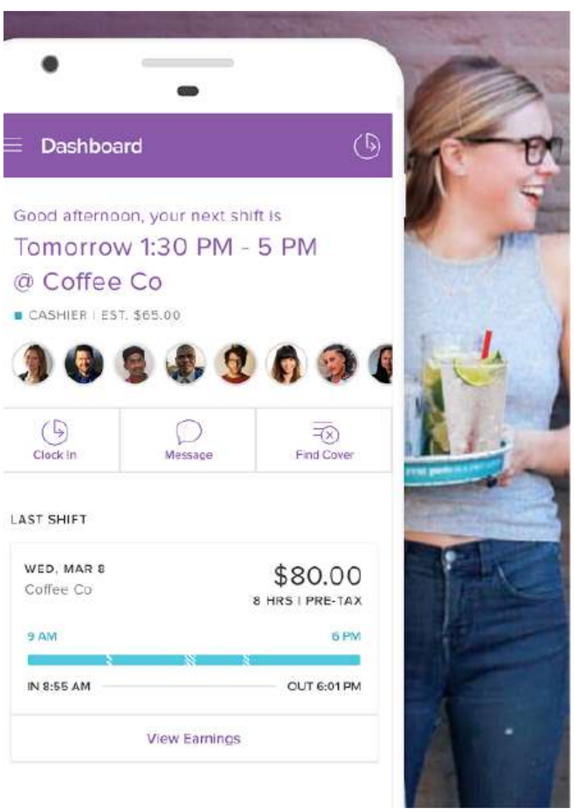
We sent employees before-shift reminders via both email and push notifications through the Homebase app and varied the timing of the reminder (the night before the shift or 1 hour before the shift), the number of reminders per shift (1 or 2), and the text of the reminder (telling people whom they were working with or giving them an 'out' to trade shifts).

We randomly assigned 42,000 Homebase employees who had worked in the past month to one of six conditions (shown below). In total we tested five different reminders, and assigned each employee to receive only one type of reminder before their shifts. Those in the control condition did not receive reminders. The reminders incorporated different behavioral principles: four of the reminders went out the night before each shift to address employees forgetting about their shift; and two went out an hour before each shift to remind employees to leave enough time for their commute. In condition four, the reminder invoked social proof and showed employees pictures of the coworkers that they would be working with during their shift to encourage them to come to work.

Condition 1 Night Before	Condition 2 1 Hour Before	Condition 3 Night Before + 1 Hour Before	Condition 4 Social proof	Condition 5 Trade Shift	Control No reminders
1 Reminder	**1 Reminder**	**2 Reminders**	**1 Reminder**	**1 Reminder**	**No reminders**
Email + push night before shift at 8 pm		Email + push night before shift at 8 pm	Email + push night before shift at 8 pm	Email + push night before shift at 8 pm	
	Email + push 1 hour before shift start	Email + push 1 hour before shift start			
			"You are working with [5] others today" + coworkers' photos.	Quick link to trade shifts.	

Figure 4: **Summary of conditions**

Results



We analyzed over 608,000 shifts over a 44-day period. On average, employees worked four shifts per week (~22 hours). In our control condition, employees were on-time to 74% of their shifts, late to 18% of their shifts, and missed 8% of their shifts.

Unfortunately, none of our five experimental conditions impacted on-time rates or show-up rates.

There are a number of possible reasons why our reminders may not have impacted attendance rates, including:

1. **"Forgetfulness" may not be the biggest barrier.** It could be that hourly employees are already aware of their shifts and don't need reminders. Transportation hurdles, missed alarm clocks, and other mundane barriers could be the main reason for employees' tardiness.

None of our five experimental conditions impacted on-time rates or show-up rates

2. **Our reminders may have been insufficient.** Research by Daniel Fernandes and John Lynch suggests that reminders don't work for people who have a low propensity to plan. In our study, it's possible that reminders did not do enough to help employees plan how they would get to work (when to start getting ready, when to leave, etc.).

3. **Our reminders may have increased cancellation.** The National Health Service (NHS) reviewed 31 reminder interventions and found that reminders increased both attendance rates and last-minute cancellations. In short, more people show up, but more people actively cancel. It is possible that in our study reminders increased last-minute shift cancellations.

Impact

We are continuing to understand what other factors could impact attendance rates, including transportation hurdles and scheduling preferences.

Using reminders to increase benefit applications in NYC

2017
Robin Hood and BDT

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2016
Project Status: In Field

The Supplemental Nutrition Assistance Program (SNAP), formerly known as the Food Stamp Program, is the United States' federally-funded food assistance program for low-income individuals and families. Approximately one in seven Americans participate in SNAP, making SNAP one of the most important government programs in the United States. In 2016, 44.2 million people relied on SNAP benefits to supplement their food consumption.

Unfortunately, there are over 13 million individuals who are eligible for SNAP but are not receiving benefits. To help these people get the necessary aid they are entitled to, we worked with Robin Hood Foundation, a high-impact poverty-fighting organization in New York, and Benefits Data Trust (BDT), an organization that focuses on assisting individuals through the SNAP application process.

13 million individuals are eligible for SNAP but are not receiving benefits.

Behavioral Diagnosis and Key Insights

We conducted a behavioral analysis to understand the SNAP application process. We listened to initial application phone calls, conducted a behavioral diagnosis of BDT's outreach mailers, talked to industry experts, and analyzed every form and touchpoint that SNAP recipients receive from the Human Resources Administration (Department of Social Services) when applying to SNAP in New York City. We gathered two key insights:

1. **The application process is complex and time consuming, leading to a massive drop-off.** According to some experts, more than half of the applications started are not finished.

Most people drop out because they fail to remember to submit documents

Most people drop out not because they do not want the benefits but because they fail to remember to submit documents or schedule an interview.

There are few support systems in place for people who forget to schedule an interview or submit their documents.

In order to understand which documents they need to mail in and by what deadline, these low-income families are expected to read through 30-page packets. In addition, the process is extremely time consuming. The US Department of Agriculture (USDA) estimates that the average applicant spends over six hours just to complete the application process.

2. **The re-certification process is also hard.** SNAP recipients are expected to re-certify their eligibility every six to twelve months. SNAP recipients have to provide relevant income documentation and complete a recertification interview. In many cases, if the recipient is more than 30 days late in completing these steps, they lose their SNAP benefits and have to complete a new application all over again.

Experiment

To help SNAP applicants complete their applications, we worked with BDT and Robin Hood to create an SMS reminder program for those SNAP recipients going through the recertification process. The text messages helped applicants remember key deadlines, gather important documents, and easily access the New York City's Human Resource Administration (HRA) hotline.

The reminder intervention was administered to thousands of SNAP recipients. The results of this experiment are still pending, and they will be released by BDT and New York City's Human Resource Administration once available.

Robin Hood and BDT are also working on a SMS reminder program for those going through the application process for the first time.

One HALF of SNAP applications started are not completed.

Managing Cash Flow

The age-old financial advice has always been "spend less than what comes in" and "balance your household budget." However, this is easier said than done. In any given moment, it's increasingly difficult to calculate a true account balance, due to the mismatch of timing between income and expenses, as well as the fluctuation of income and bills.

Balancing a household budget is a monumental feat for many people living in the United States. The U.S. Financial Diaries project found that most of the households in their study had significant volatility in their income and expenses month over month.

To manage cash flow, many resort to borrowing from friends or family and high-cost credit to smooth expenses.

According to NerdWallet's 2017 household debt study, the average household that is carrying credit card debt owes over $15,000, which costs an average of $904 in interest annually.

To help low-to-moderate income households improve their cash flow management, we worked on eight projects, partnering with six different organizations. We launched two experiments (and two more set to launch in the next quarter) and are in the process of building two prototypes. We also refined our research after conducting over 50 qualitative interviews with low-income families in Fresno, California.

> Income and expense volatility makes it difficult for families to manage their cash flow

This year, we are in the early stages of focusing on four promising ways in which the financial services industry can help their members, clients, and users better manage their cash flow:

1. **Budget Management:** Both creating a budget and sticking to that budget are generally seen as essential for managing cash flow. However, there is little evidence about how to help people stick to their budget.

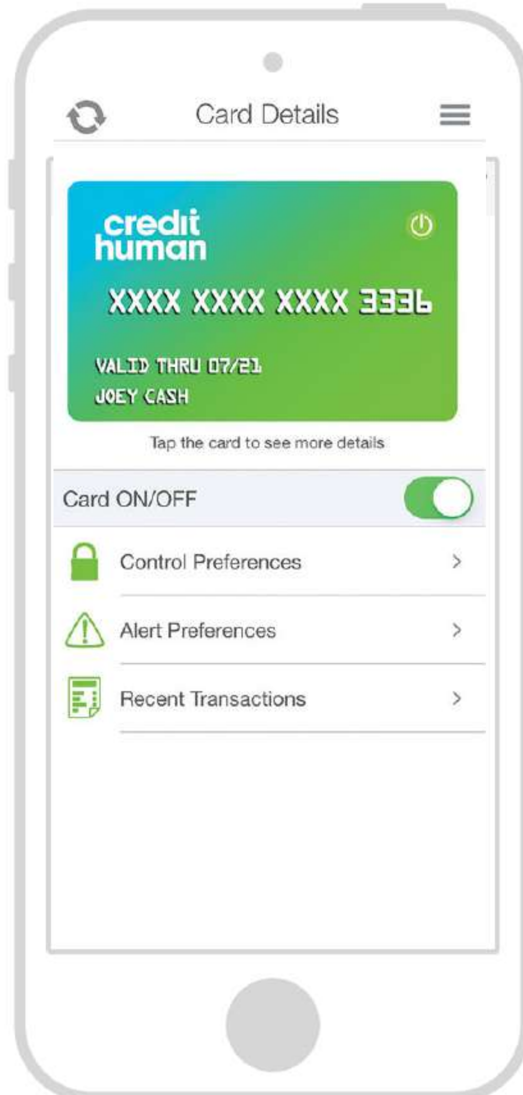
With Local Initiative Support Corporation (LISC), we used visual goal-setting and postcards to a client's future-self to increase retention in financial coaching. Coaching has been shown to positively impact peoples' finances.

LISC
Helping neighbors build communities

However, service take-up and return visits have been a challenge in the field. We are currently analyzing the results of our field experiment.

In partnership with Credit Human Federal Credit Union, we are developing a prototype of a Spend and Save app that takes the complex math out of budgeting. It automatically looks at your expected inflows and outflows, adjusts for timing mismatches, and generates a true balance in real time. The prototype is currently in development.

We are developing a prototype of a Spend and Save app that takes the complex math out of budgeting



Lastly, we ran several online studies that showed people were more drawn to budgeting "rules of thumb" that counted the number of times they would do something (i.e. eat out two times per week) rather than how much they would spend on something (i.e. only spend $20 per week on eating out). We are currently designing a field experiment with Clarity Money, a personal finance app, for early 2018 to test these findings on actual spending behavior. This could have large implications for how we construct budgets.

2. **Income Stability:** According to a Pew study, 92% of households responded that financial stability was more important to them than moving up the income ladder. Additionally, over 78 million workers (almost 59% of the total workforce) are paid hourly. This means that their paycheck can vary significantly week-to-week, depending on how many hours they were scheduled to work.

In an online study, we found that study participants reported that they would give up 12% of their annual income in order to switch to a more consistent schedule. Additionally, we found that workers would significantly prefer to be over-scheduled than under-scheduled. In partnership with Homebase, a scheduling software, we are developing a series of experiments to create more optimal schedules for hourly workers.

3. **Short-term and Small-dollar Credit Solutions:** Consumers need cost-effective short-term lending. Unfortunately, most of the wide spread credit solutions are in the form of predatory payday loans. These loans generally lead to borrowers paying more in fees than they originally received in credit. In fact, the average payday loan borrower is in debt for five months of the year, repeatedly borrowing less than $400 and paying an average of $520 in fees.

We partnered with Credit Human to improve their payday loan alternative, QMoney. By asking borrowers to plan their payment ahead of when the payment was due, we hypothesize that we will be able to increase repayment rates. This will allow Credit Human to offer the small dollar loan at an even more affordable rate for their members. This experiment is still in the field.

24% of Americans

still make most, if not all, of their purchases with cash

4. **Leaving cash behind:** According to a 2016 Gallup survey, 24% of Americans still make most, if not all, of their purchases with cash. However, operating in the cash economy has many drawbacks. Not only are cash users more vulnerable to theft, they are also locked out of beneficial financial services, such as expense tracking, budgeting, or automatic savings.

   We are partnering with Grameen America, a microloan lender for female small business owners, to transition women from using cash to cards.

Increasing uptake and repayment on a payday loan alternative

2017
Credit Human

Partner Type: CU
Project Type: Optimization

Partner Cohort: 2017
Project Status: In Field

Payday loans provide relief for a very immediate need for cash, but this relief comes at the cost of triple digit interest rates and exorbitant fees. According to the Pew Charitable Trusts, about 12 million people in the United States take out payday loans. Furthermore, borrowers who cannot afford to repay loans within two weeks are often forced to take out more loans to cover existing ones.

Borrowers incur even more fees and get trapped in a downward cycle of debt.To help members use lower-cost payday alternatives, we partnered with Credit Human Federal Credit Union (Credit Human), a credit union in San Antonio, Texas. Credit Human developed QMoney, a low-fee, low interest rate payday alternative that offers members money “on the spot.” Members can go online and request a loan for up to $500 at any time without a credit check.

Funds are deposited into their checking account within 60 seconds of approval. Unlike a payday loan, members cannot take out another Q-Money loan until they have paid off the existing QMoney loan.

Over a five month period members paid over $1.4 million dollars to payday lenders

Credit Human developed QMoney after they learned that members (and even credit union employees!) were using local and online payday lenders for their short-term cash needs. For example, in a five-month period in 2015, members made over 703 payment transactions for $1.4 million dollars by ACH to traditional payday lenders.

Behavioral Diagnosis and Key Insights

QMoney was designed to meet the members' immediate need for money (without creating longer-term problems) and to be financially viable for the credit union. In order to offer lower interest rates and lower fees, Credit Human needs high uptake and repayment rates. We are working with Credit Human on an intervention focused on increasing uptake rates. We also launched an experiment aimed at increasing repayment rates among members who could benefit from the loan. We are working with Credit Human on an intervention focused on increasing uptake rates. We also launched an experiment aimed at increasing repayment rates.

Through our research, we realized that in order to increase on-time payments we needed to:

1. **Prompt members to think about when they will have money to make the next loan payment.** Despite good intentions, many people often fail to follow through on important plans such as taking medication, exercising, voting, and paying loans on time. There is an increasing amount of evidence showing that prompting people to make specific plans makes them more likely to follow through.

   For this reason, we decided that shortly after a member takes out a loan, we would prompt them to plan their payment by thinking about when they have money available to make the next loan payment.

2. **Encourage members to make payments as soon as funds are available (instead of waiting for the deadline).** From a purely rational economic perspective, members should wait until the loan is due to pay it.

3. **From a behavioral perspective, however, members might be better served by making a loan payment when they have funds available** – so as to avoid the temptation of spending the money elsewhere or risk forgetting to make the payment on the due date. For this reason, we reminded members that partial payment was an option. We also offered details about how to make a partial payment.

Experiment

Members who took out a QMoney loan were randomly assigned to a control or experimental condition. In the experimental condition members got a "plan your payment" email a few days after the loan was taken out (see figure below). Members in the control condition did not get a "plan your payment" email. In both conditions, however, members get a payment reminder. The payment reminder was sent three days before the one-month and two-month payment deadlines.

Control Condition

QMoney Loan Payment Notice

Your SACU QMoney loan payment is due on the date shown below.

Payment Due Date: 03/10/17

If your payment is 10 or more days past the scheduled date of payment then you will be subject to a late charge equal to 5% of the unpaid scheduled payment due.

Experimental Condition

QMoney Loan Payment Notice

Your SACU QMoney loan payment is due on the date shown below.

Payment Due Date: 03/10/17

If your payment is 10 or more days past the scheduled date of payment then you will be subject to a late charge equal to 5% of the unpaid scheduled payment due.

Plan your QMoney Repayment

You recently received a QMoney Loan. Your payment in the amount of $254.59 is due on or before Saturday - 05/20/17.

We ask that you take a moment to think through when you will have money available to make your loan payment - for instance your next payday.

To make a partial payment, simply log into Online Banking or use the GO app on your phone and select the Transfer option.

We thank you for being a responsible member and paying us back on time.

Figure 5: Summary of conditions

Results

Our experiment is still in the field and will be running until 2019. In the first five months of the experiment, 400 members had taken out a QMoney loan. We will be measuring repayment rates across both conditions and will share results in 2019.

Using visual goal setting and a postcard to future-self to increase retention

2017
LISC

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2016
Project Status: In Field

Recent evaluations of financial coaching provide evidence that coaching is a promising approach that leads to changing financial behaviors and improving financial health. However, these evaluations showed that the success of coaching is moderated by the participant's engagement.

For financial coaching to improve a participant's circumstances significantly, the participant has to commit to it. Our own analysis of financial coaching participants mirrors these findings.

Participants who attend three or more sessions (including two in-person sessions) were more likely to find a job, keep their job after 180 days, and establish a credit history. These effects could be attributed to self-selection (people who are already committed to employment may naturally continue with sessions) but we also suspect that financial coaching has an independent positive effect on outcomes.

Results by Commitment Level

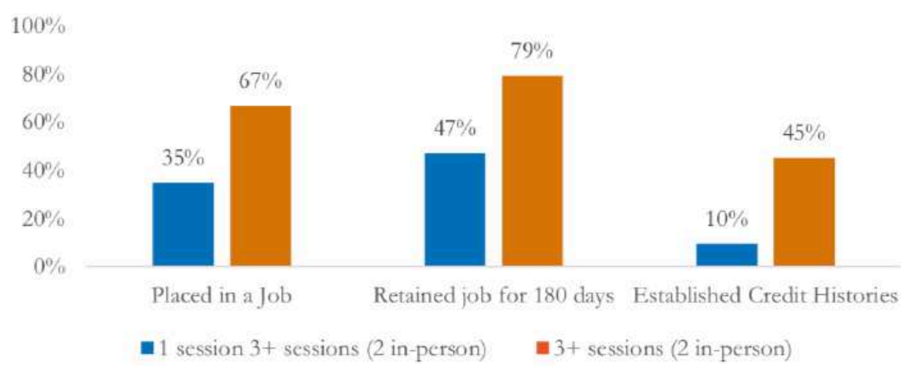


Figure 6: Results by commitment level

Therefore, improving retention and engagement among financial coaching participants would increase the impact of the programs. But what are the most effective ways to do that? Over the past 18 months, we have partnered with Local Initiative Support Corporation (LISC) to tackle just this problem. Working with their network of Financial Opportunity Centers (FOCs), we explored behaviorally informed strategies to improve the retention of financial coaching programs.

Behavioral Diagnosis and Key Insights

The strategies we designed were based on the in-depth qualitative research we conducted at 29 FOCs across five different states.

> We conducted qualitative research at 29 centers across five different states.

During these trips, we had one-on-one interviews with financial coaching participants about their experiences with the program. We also spoke with financial coaches about where in the process they see clients struggle and what kind of strategies they use to engage them. In addition to the qualitative work, we also analyzed administrative data provided by LISC to look for trends in retention.

From this work, we identified a number of barriers that might prevent a financial coaching participant from fully engaging with the program. We think two barriers are especially important:

1. **Financial coaching offers value that materializes in the future, but many participants are focused on short-term problems.** This mismatch means that some participants may not fully connect with the long-term goals they set as part of the coaching process.

2. **Some participants put off working with a financial coach until a certain point in the future, such as when they secure employment.** This means that some participants may drop off more quickly during the early sessions.

Experiment

Based on these insights, we developed an intervention that tests two behaviorally informed strategies. In the first strategy, financial coaches took participants through a visual goal setting exercise. Participants were presented with a set of eight photos and asked to select one that represented what they wanted their financial future to feel like. This prompted a conversation about why they identified with the selected picture.

This visual goal setting exercise draws on research suggesting that we connect with images differently than we do with abstract ideas. By structuring a long-term goal setting exercise around visuals, participants were able to connect with their goals in a more meaningful way.

Furthermore, we purposefully selected eight photos that were conceptual, allowing participants to imbue them with their own meaning. In doing so, the photos allowed participants to connect with their goals on an emotional level. Half of the financial coaching participants were asked only to pick a photograph.

The other half were asked to use their answers from the visual goal setting exercise to fill out a postcard written to their future selves.
They were unaware of the fact that they would receive the postcard the next time they missed a meeting. Reminders such as the postcard can play an important role in making our previous intentions more salient by bringing us back to the moment when we set those intentions. The postcard not only serves as a reminder of the motivation participants felt during the session, but it also makes the coach's contact information readily available.

Control Condition

Experimental Condition

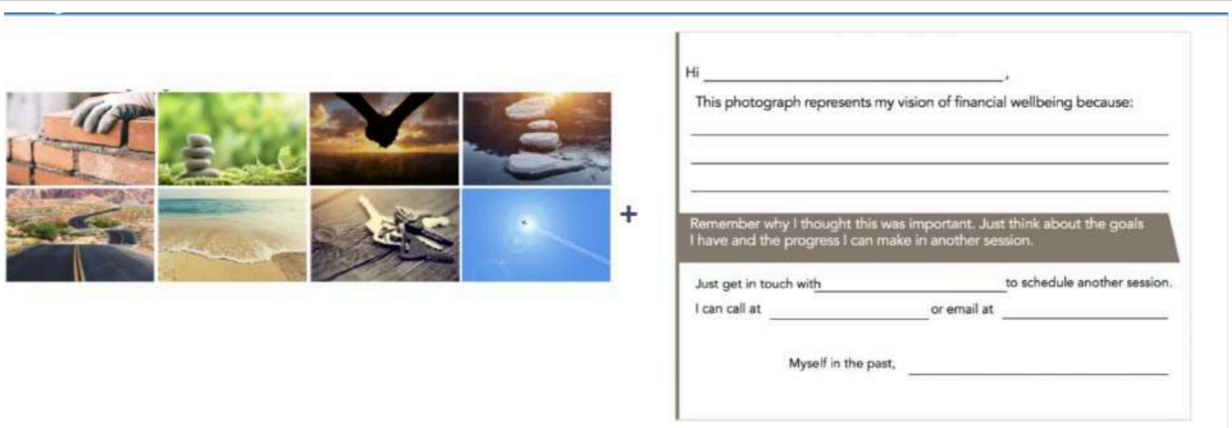


Figure 7: Summary of Conditions

Results

Enrollment in the experiment ended in October 2017. In total, we rolled out our intervention to 741 financial coaching participants in ten different cities. We will continue tracking outcomes for these participants for the next three months. Specifically, we will be tracking retention, which we define as have attended three or more financial coaching sessions within three months, as well as the length of time between sessions. We expect to share results in Q1 2018.

Improving cash flow management by reducing friction and cognitive load

2017
Credit Human

Partner Type: CU
Project Type: Prototype

Partner Cohort: 2017
Project Status: In Build

According to the Consumer Financial Protection Bureau (CFPB), 43% of adults in America struggle to pay their bills. Additionally, one in three adults experienced material hardships in the past year (running out of food, not being able to afford a place to live, or lacking the money to seek medical treatment). In a survey conducted by CareerBuilder, 78% of Americans live paycheck to paycheck.

To help consumers manage their finances, we partnered with Credit Human Federal Credit Union (Credit Human), a credit union in San Antonio, Texas with over 250,000 members. Credit Human was concerned that their members did not have enough slack in their budget to deal with the varying demands of daily life.

43% of adults in America struggle to pay their bills

Keeping in line with Credit Human's mission of improving the financial well-being of members, especially those of modest means, we have focused on several projects aimed at making it easier for their low-and-moderate income people to manage their money effectively and meet their short-term cash needs.

Behavioral Diagnosis and Key Insights

We partnered with both Credit Human and Bridgeable, a service design agency based in Toronto, Canada. We undertook a rigorous exploration to understand the behaviors we were aiming to change and the barriers to the desired behaviors. This involved 12 in-depth interviews with credit union members, 4 in-depth interviews with credit union staff, a focus group style learning lab and a co-creation session. From this process, we identified two behavior areas to focus on.

> We conducted 12 in-depth interviews with credit union members and 4 in-depth interviews with credit union staff

First, we wanted to help members spend less at the start of their pay period in order to smooth their spending so they had more money left toward the end of their pay period. Second, we wanted to help credit union members save incremental small amounts throughout the pay period.

We also identified two barriers that prevent people from engaging in these behaviors.

1. **Cognitive load.** Members reported having to check their balance regularly to work out if they could afford day-to-day purchases.

   They explained the difficult calculations they had to make – taking into account upcoming bills and expenses to consider whether a purchase now would lead to a more difficult financial situation later in the month.

   This resulted in a continuous process of weighing opportunity costs against each other and struggling with unexpected or varying costs. Members often reported making mistakes, thus having to resort to expensive credit.

2. **Friction to saving.** Additionally, and partly caused by this cognitive load, members reported struggling to save. Due to irregular or variable income and

expenses, members didn't want to commit to an automated direct deposit because the amount they could save varied month-to-month. Furthermore, there was too much friction to make saving manual small incremental amounts worthwhile.

Experiment

We decided to build an app (Spend and Save) to help tackle these challenges. After several rounds of prototyping, we settled on the following key features.

1. **Free to spend.** The main feature of the app is its ability to calculate a free-to-spend (or sweat-free, as labeled below) amount. This requires it to identify upcoming bills and expenses – rent, utilities, travel etc. – and calculate a figure that does not include these and so is available to spend.

The feature accounts for a "bill buffer" to allow for an unexpected bill or expense. This buffer emerged as an essential element to enable users to feel that they could trust the overall figure without worry of it under calculating costs.

Finally, this feature also builds in emergency savings, which is a small amount that is moved to savings at the end of the pay period. Importantly this amount can vary from one month to another, allowing for regular savings without the danger of overcommitting.

Overall, displaying this free-to-spend figure has the potential to reduce the need for mental calculation and opportunity cost consideration when making every day purchasing decisions.

2. **Quick Save.** To overcome the perceived friction to small incremental savings, we introduced a quick save feature – a button that enables users to save a small amount with one click. In many ways, this is the opposite of impulsive spending.

One of the challenges with saving is that it's about deferring immediate gratification for the promise of longer term well-being. Given that there is rarely any short-term reward for saving, we decided to introduce reward substation to this feature in the form of haptic feedback (the phone would vibrate) and a visual celebration (e.g. confetti flowing across the screen).

App Screens

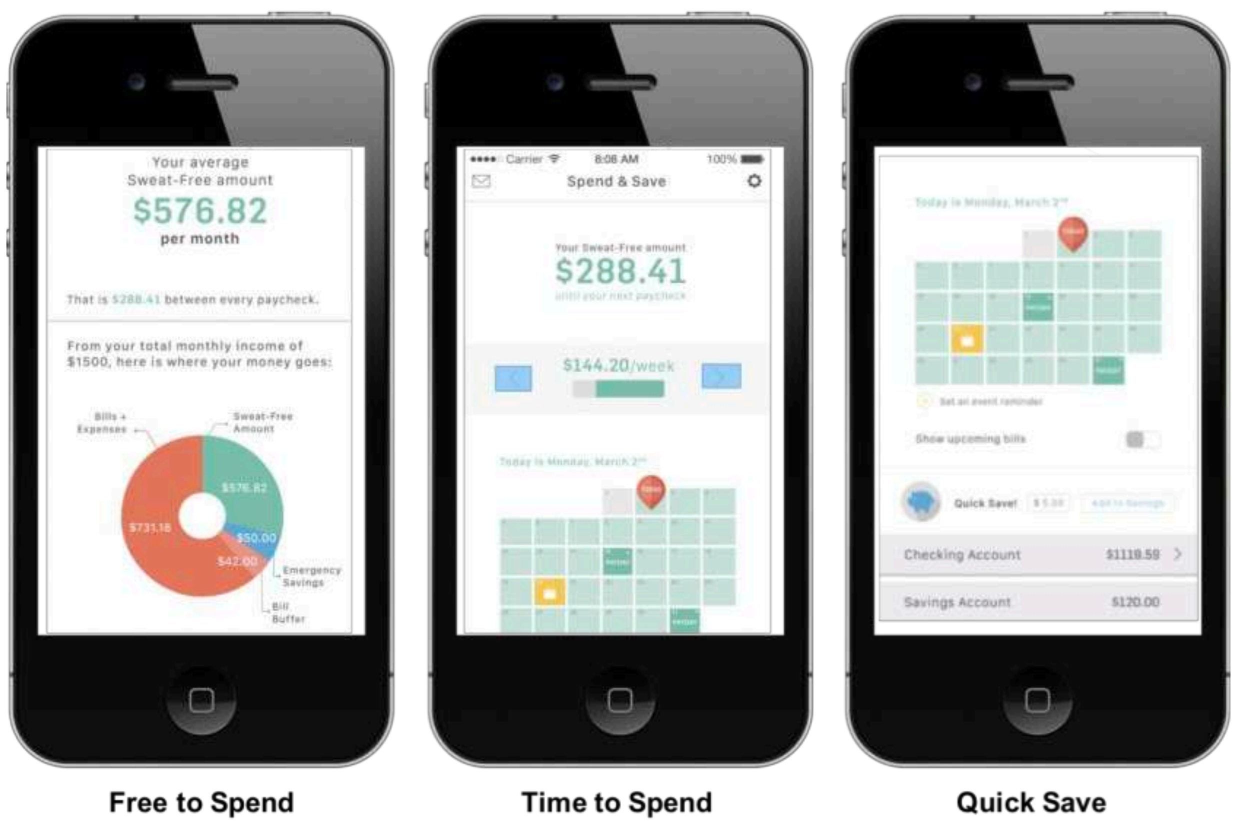


Figure 8: Sample app screens

This app is still in development with our partner. Once the app is completed, we plan to answer the following questions:

1. **Does giving people a free-to-spend amount which excludes their usual expenses reduce their cognitive load and increase the quality of their spending decisions?**

   We plan to test this by randomly assigning people to use the app versus not having the app at all.

2. **Does the time period that their free-to-spend amount is calculated for influence their spending decisions?**

   We plan to test this by randomly assigning people to receive and use one of a number of different versions of the app that has different time periods, i.e. free to spend until: the end of the day, the end of the week, the end of the month, or their next paycheck.

Leaving cash behind: Building swipe behavior for small business loans

2017
Grameen

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: In Build

According to a 2016 Gallup survey, 24% of Americans still make most, if not all, of their purchases with cash. However, operating in the cash economy has many drawbacks. Not only are cash users more vulnerable to theft, but they are also locked out of beneficial financial services such as expense tracking, budgeting, or automatic savings.

To understand how to help consumers shift from cash to cards, we partnered with Grameen America, an organization dedicated to helping women who live in poverty build small businesses to create better lives for their families.

Behavioral Diagnosis and Key Insights

Grameen America offers low-income women microloans to help them build their businesses, achieve higher family incomes, and develop entrepreneurial skills. The Grameen lending model fosters accountability among its members – the women entrepreneurs it lends to – for their loan repayments.

Members must repay their loans in person during a weekly meeting – “the Center Meeting.” Requests for membership, loans and loan increases must be approved by all members in the group at the Center Meeting. Grameen reports over 99% repayment rates.

Recently, Grameen has started to disburse loans using a card. Their goal is for members to use the disbursement card to buy goods directly from vendors. The disbursement card is a much safer and more secure option for members. More importantly the members need to be comfortable with digital tools. Getting Grameen members to use disbursement cards is one way to shift behavior away from cash and towards cards. However, currently most members are not using the cards as intended; instead, over 90% of members take out the full amount on the card as cash from an ATM.

In order to understand the barriers to card usage, we observed nine Center Meetings in Brooklyn and the Bronx. Additionally, our team visited four different Grameen branches to observe the loans being disbursed to members. During these visits, we had the opportunity to talk to Grameen staff, members, and branch managers, and get their insights on barriers to using the card to pay directly instead of getting cash. From these conversations, we’ve gathered the following insights.

90% of members withdraw the full deposit amount in cash from an ATM

1. **There are no rules of thumb around using cash versus the card.** There are no clear guidelines or rules of thumb around how and when cash should and should not be used. This makes it easy for members to still use cash.

2. **Payment method for loan purchases (using the card or using cash to buy goods) is not a visible or social behavior.** A great deal of the success of the Grameen model (repayment in particular) is around social forces and

accountability to others. Currently, there is little emphasis on how the loan is being spent, let alone the payment method for the loan (cash versus card). There is no real opportunity for members to “see” the payment methods other members use when buying goods and services for their small businesses.

3. **Members do not feel that they know how to use the card (even if they have been given instructions) and prefer to spend the way they always have (for many - cash).** Members may not have knowledge of or familiarity with digital banking and card usage. As a result, how and when to use the card might not connect with other habits members have previously formed. Some members resort to asking family members to help them use the card to withdraw cash from an ATM because they can then interact with the loan without further assistance. Concepts such as activation, setting a PIN and checking balances may all be unfamiliar. As a result, it is not worth engaging with the card directly, when using cash is a readily available and familiar alternative.

Experiment

We are in the process of developing our experiment which we expect to roll-out in 2018. We hope to make two key changes to the current system:

1. **Change the weekly meetings to make the payment more visible to other members**. During the weekly meetings, members who just had a loan disbursed will be asked if they used the card to pay for goods or services and why they did or did not use the card. These questions will be asked “out loud” in the presence of other members. This approach will shed some light on self-reported barriers to using the card and help create guidelines and norms around using the card. Grameen is in the midst of rolling out these changes to seven Grameen markets in New York, Texas, Massachusetts and California.

2. **Send text message reminders to members the same week that their loan is disbursed.** This is when members are most likely to be making purchases. We will test the efficacy of the reminders on card utilization, testing different

messages. We expect to start pushing text messages at the end of 2017 to members in seven Grameen markets. Based on loan terms and current membership, we expect to send over 10,000 text messages to members in the seven markets within six months after launch.

Learnings from the Lab: Understanding context through environmental immersion

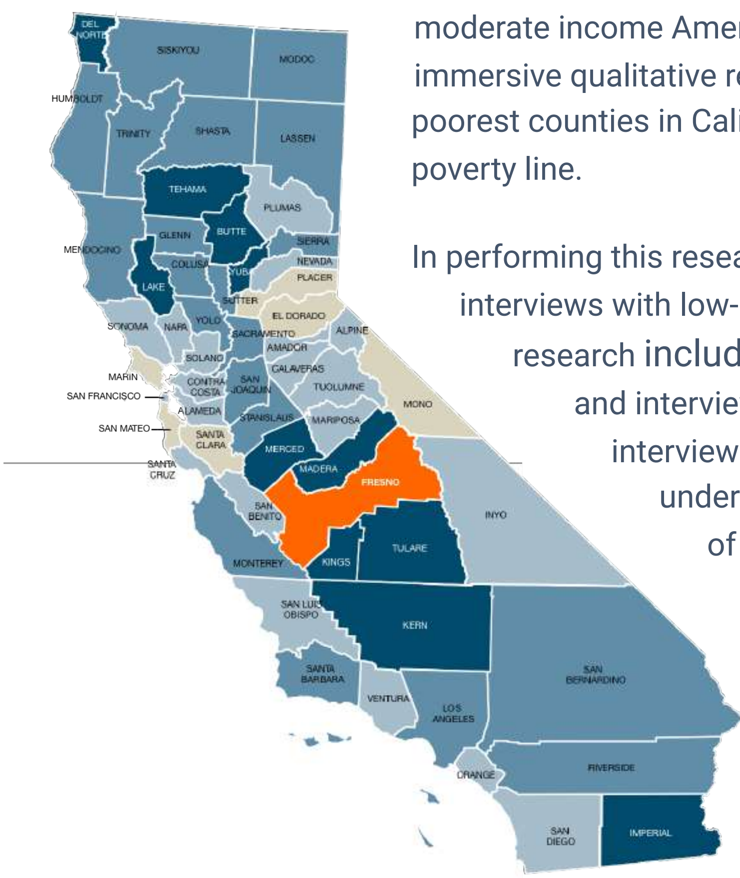
2017

Partner Type: --

Project Type: Lab Learnings

Partner Cohort: --

Project Status: Completed



To better understand financial decision making among low-and-moderate income Americans, we spent two weeks performing immersive qualitative research in Fresno, California, one of the poorest counties in California, with 26% of people living below the poverty line.

In performing this research, we conducted over 50 qualitative interviews with low-and-moderate income Americans. This research included: grocery store shopping trip follow-alongs and interviews; in-home visits and interviews; qualitative interviews with managers of small businesses; undercover visits to used-car dealerships; one day of debt collection follow-along; a behavioral audit of an auto loan collections center; an audit of a religious-based financial training program; purchase and use of money orders; visits to several payday lenders, including taking out, extending, and repaying a payday loan; and informal discussions with members of the community.

Over 60% of these interviews focused primarily on the themes of: how people talk (or don't talk) about finance, income and expense volatility, and financial automation and control.

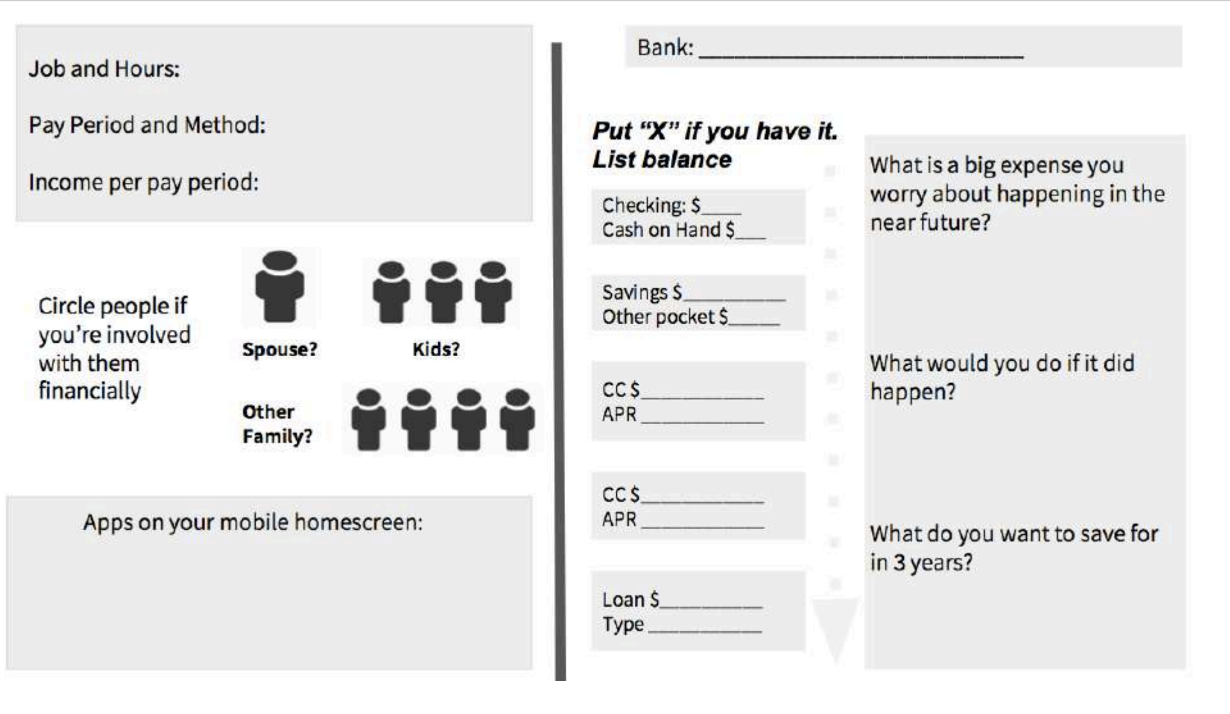
We also performed a variety of community service activities, including: three presentations on behavioral science life hacks, volunteering at a summer camp for low income children, delivering a financial coaching session, and conducting mock interviews with thrift store employees on work-for-welfare programs.

Over 60% of people don't talk about their finances

Behavioral Diagnosis and Key Insights

We used a combination of immersion and semi-structured interviews to understand the lives and financial decision-making of primarily low income individuals. At the start of every interview, participants filled out the form below. This started a conversation and provided a baseline to compare across our research.

Sample Questionnaire


Job and Hours:

Pay Period and Method:

Income per pay period:

Circle people if you're involved with them financially

Spouse?

Kids?

Other Family?

Apps on your mobile homescreen:

Bank: ______________________________

Put "X" if you have it. List balance

Checking: $____
Cash on Hand $___

Savings $_________
Other pocket $_____

CC $___________
APR ___________

CC $___________
APR ___________

Loan $_________
Type __________

What is a big expense you worry about happening in the near future?

What would you do if it did happen?

What do you want to save for in 3 years?

Figure 9: Sample questionnaire

While the results of our qualitative interviews are not meant to be conclusive or statically rigorous, they did provide meaningful insights into the lives and challenges of low-to-moderate income individuals. We compiled our findings across three themes:

1. How people talked (or didn't talk) about their finances
2. How people cope with income and expense volatility.
3. How people make the trade-off between automation and control of their finances
4. How people buy a used car

Some of these findings replicate seminal insights found in behavior science. Others may surprise you.

Talking (or not talking) about finances

People often don't discuss their finances because:

1. **They know others might be worse off than they are.** There is a fear that if money is discussed, other people who are in a worse financial situation may ask them for money.

2. **Their finances are seen as a reflection of other life choices.** Some people did not want to discuss finances because it would highlight their personal priorities and choices. These priorities may reflect life decisions that family and friends disagreed with (e.g. drug/alcohol abuse, smoking, etc.).
3. **There is a sense of hopelessness.** There was often a sense that there is no purpose to discussing finances since their financial situation won't change. One respondent stated "I was poor yesterday, I'm poor today, and I'm going to be poor tomorrow."
   When users did discuss their finances it was often with just one or two close

“I was poor yesterday, I’m poor today, and I’m going to be poor tomorrow.”

-Fresno resident

confidents. There was fear of “letting too many people know” about their financial situation. People seemed more open to discussing problems when they are framed as an issue that can be solved (e.g. a friend is making a financial mistake that can be remedied.

Coping with income and expense volatility

Many people had creative self-hacks to manage their financial volatility, including:

1. **Matching their income and expenses.** Many people first paid their rent and bills when they received their paychecks (often using money orders), then used the rest of their money until their next paycheck.
2. **Working just-in-time side jobs.** Side jobs/hustles were largely only done when a person had low funds rather than in a preemptive way.
3. **Anticipating windfalls.** Tax refunds are a significant windfall which some people use as forced savings. People would penny pinch until tax season and then breathe easier, get caught up on loans, make larger purchases, or take trips.
4. **Mentally budgeting each paycheck.** People who are paid twice a month may mentally account for each paycheck differently and use each paycheck for different purposes.

Making the automation vs. control trade-off

We noted a couple of interesting habits that happen when LMI consider automating their savings and expenses.

1. **Automatic savings are not mentally accounted for as earnings**. Automatic withdrawal for savings has such a powerful effect that people can forget that the money was even earned. As a result, they don't mentally account for this money as part of their paycheck.
2. **Minimum credit card payment as the default.** People's assumed default for credit card payment is often the card's minimum payment. Those with a balance may pay that amount or use that amount as an anchor to adjust their payments.
3. **Expense variability reduces automation**. When bills are variable, automating often feels too risky. This effect gets further exacerbated if a checking account reference point is $0.
4. **Hassles beginning to automate.** The hassle of going through a one-time automation can dissuade people from automating, even when they would like to.

We explored auto loan origination and collection in depth, which revealed several insights about the industry.

1. **Auto salespeople have no built-in sales incentive to ensure a car buyer can repay a loan.** They often take pride in being able to get a buyer into any car on the lot, regardless of a buyer's ability to pay for the car.
2. **Once on a car lot, price negotiations are often based on monthly payment amount.** This obscures the total cost of the car, as well as the interest rate and the length of the loan. Auto salespeople use a variety of tactics which range from anchoring a potential buyer to an expensive car to outright modification of the loan application document.

Impact

These insights have helped informed our work. We are building a new auto loan calculator to help consumers understand the true cost of buying a car, including gas, insurance and maintenance costs. In addition, we are working with Beneficial State Bank to change their auto loan payments schedules, allowing consumers to time their payment to when they get their paycheck.

Learnings from the Lab: Can rules of thumb curb consumption?

2017

Partner Type: Startup
Project Type: Lab Learnings

Partner Cohort: 2017
Project Status: In Build

In financial education and personal finance circles, budgeting (both tracking expenses and planning how much to spend in a specific category of expenses) is heralded as a way to reduce expenses and focus spending on areas of personal importance. However, from a research perspective, the jury is still out on the benefits of budgeting. It is unclear how successful budgeting is at actually reducing expenses even in the short term, given the behavioral challenges associated with creating and adhering to a budget.

We have partnered with Clarity Money to test personal financial management features, including traditional style budgeting and an alternative form of budgeting based on rules of thumb. Rules of thumb are heuristics that can help people make decisions. For example, we use rules to help us make mealtime decisions, e.g. "Never eat carbs," or to stay in fashion, e.g. "Don't wear white after Labor Day." Rules of thumb are also helpful in the personal financial management space. However, existing research does not provide guidance on how to design rules for optimal adoption and impact.

Behavioral Diagnosis and Key Insights

Based on our data analysis, we selected eating out as a good category for testing weekly rules of thumb. We chose this category due to its frequency and to the amount of spending that occurs relative to categories which have more irregular purchase patterns and a lower proportion of someone's budget. In addition, our qualitative interviews and auditing of financial education courses suggested that eating out was a category people felt they should cut down on.

We chose a week as our preferred unit of time for testing because we believed, based on findings from our research with Propel, that smaller chunks of time are easier to conceptualize.

We performed a 1,353-person on Amazon Mechanical Turk study to determine the most effective type of rule of thumb for managing weekly eating out. We tested the following rules for both specific establishments and for eating out in general:

1. Only spend a maximum of $[20] each time you eat out.
2. Only spend $[40] per week eating out.
3. Never eat out.
4. Only eat out [two] times per week.
5. Only eat out on the weekends.

We found that the number of times per week rule (e.g. "I will eat out only once this week") generally outperformed the other rules of thumb in terms of how confident people felt that they would follow it, the amount that people said they would save if they followed it, and if they would recommend it.

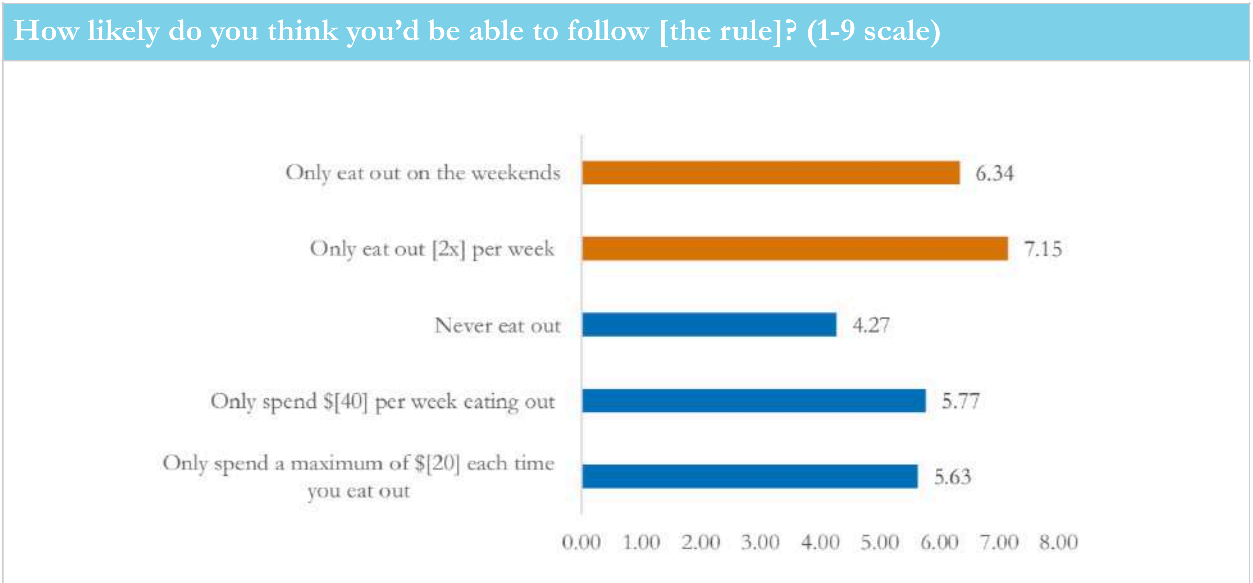


Figure 10: Results by condition

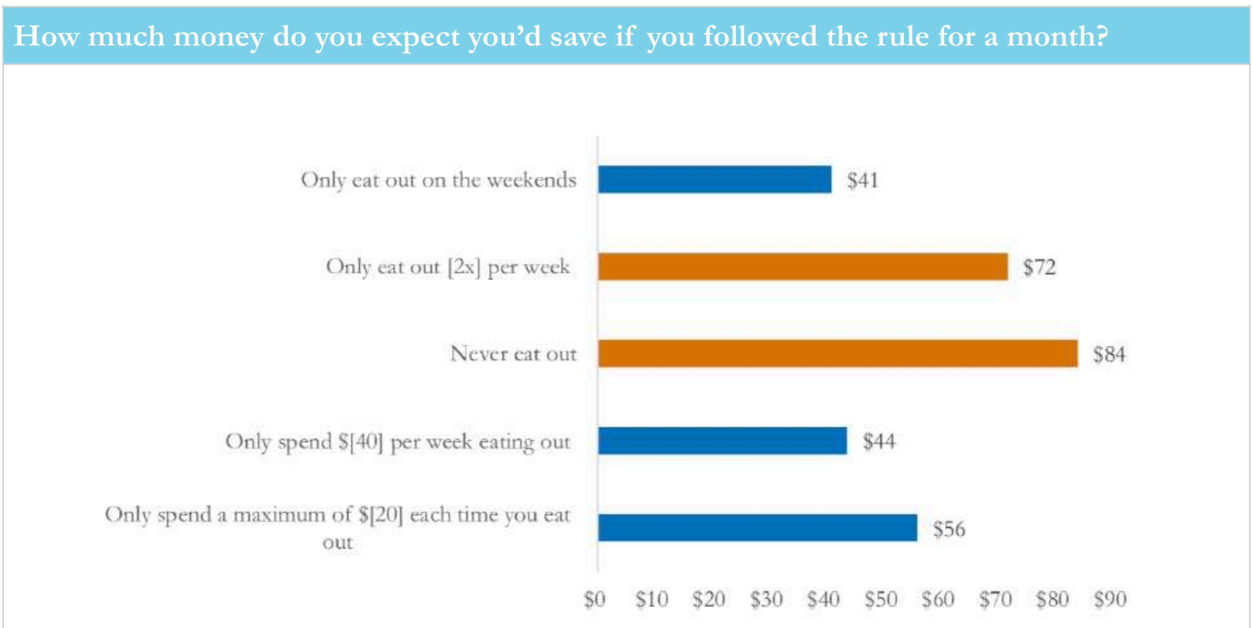


Figure 11: Results by condition

We also found that more general rules of thumb for the activity (i.e. I will eat out only [two] times per week) generally outperformed rules of thumb based on specific establishments (i.e. I will eat out only [two] times per week at Ted's Restaurant).

Would you recommend this rule to a family or friend?

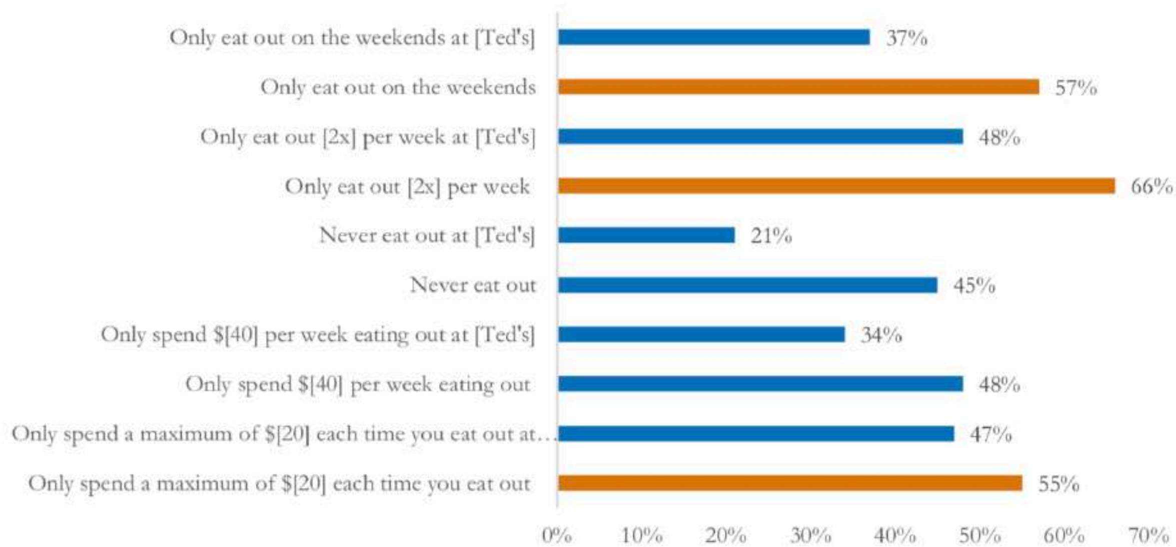


Figure 12: Results by condition

Experiment

To extend our budgeting work, we partnered with Clarity Money, a personal finance management app. Together, we are running two separate three-condition experiments, one focused on budgeting and one focused on rules of thumb.

In the first three-condition experiment, we are testing the following conditions: an informational control, an overall budget-setting condition, and a category-by-category budget setting condition.

In the second three-condition experiment (within the context of a specific category of spending), we are testing: an informational control, an overall category spending challenge (e.g. spend only $40 eating out this week), and a rule of thumb-based challenge (e.g. eat out only twice this week).

These experiments will be rolled out in the beginning of 2018 and will include at least 10,000 Clarity users.

Learnings from the Lab: Can software help decrease key challenges within worker income volatility?

2017

Partner Type: Startup
Project Type: Lab Learnings

Partner Cohort: 2017
Project Status: In Build

Over 40% of Americans who report variable monthly income blame it on an irregular work schedule, according to a report released by Aspen Institute. Even jobs with steady hours can generate a volatile income stream due to performance-based pay, irregular pay periods, or lack of paid time off.

To further investigate this matter, we partnered with Homebase, a scheduling app for small businesses. Homebase not only reaches employers, but also has a direct line to employees.

Behavioral Diagnosis and Key Insights

To better understand the challenges that hourly workers face and uncover how Homebase could address them, we ran three studies reaching 2,000 people, reviewed relevant literature, and conducted nine immersive interviews with small businesses.

We found a couple of key insights:

1. **Schedules are unstable.** Hourly workers have a lot of variability in their schedules. In our online study of over 500 workers, 31% reported working more hours some weeks than others and having a fluctuating paycheck as a result. Among hourly workers, 36% reported variable or highly variable schedules and paychecks.
2. **Employees lack notice.** In another Common Cents Lab study, 55% of employees reported getting their schedule at most a week before, and 10% of employees got it only the day before the upcoming workweek.

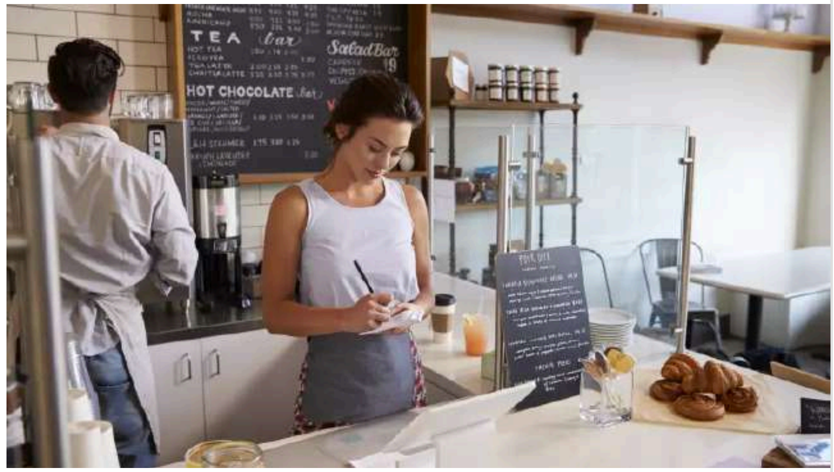
   This is consistent with reports that, nationally, over 40% of employees, and 47% of part-time hourly workers, learn when they will be working less than one week in advance. This large representative study was conducted at the University of Chicago. Not surprisingly in our survey, 60% of employees reported that they would like to receive at least two weeks' notice.

To figure out how much this really matters to workers, we decided to quantify the pain in dollars. Would people take a pay cut in exchange for a consistent schedule with a dependable paycheck?

We asked over 500 people on Amazon Mechanical Turk to imagine they had a job with a highly variable schedule (high seasonality, low predictability) and that they could take a pay cut to change it to a more consistent schedule. In this hypothetical scenario, participants said they were willing to give up an average of $12,600 in yearly income to switch to a consistent job, keeping total work hours constant. We then asked how much of their own income they would give up to switch to a consistent schedule. On average, they would give up $4,600 (or 12%) of their annual income for a more consistent schedule. While we are not surprised that people have a preference for consistent work schedules, we are surprised at the magnitude of this preference.

Hourly workers would give up 12% of their annual income in exchange for a more consistent schedule.

In a follow-up study of 1,300 Amazon Mechanical Turk workers, we sought to further unpack the pain of income volatility. Participants imagined that they were hourly workers. Then they were randomly assigned to one of two conditions: they received a schedule with either more than the maximum number of hours that they had requested or fewer than their minimum.



Workers were unhappier when they were underscheduled (got less than the minimum they requested) than when they were overscheduled. This pattern was driven by low levels of financial security and high stress when workers were underscheduled because they were worried about not having enough income to pay their bills that week. Indeed, corroborating this finding, 74% of hourly workers reported that it's more frustrating to be assigned fewer hours than the minimum they requested versus more hours than their maximum.

Experiment

As a next step, we are partnering with Homebase to first collect employee preferences and then design a product feature that feeds this information back to employers at the point of scheduling.

After we have created this preference loop, we will work with Homebase to increase notice times from their current average of five days to, hopefully, two weeks. To do this, we'll start by making it incredibly easy for employers to create schedules that meet their own business objectives as well as the needs of their employees.

Homebase and other scheduling software solutions have the power to help smooth out income volatility. While some of the issues listed above may be a result of business owners optimizing for profit, we hope that a majority of workers' scheduling pain can be solved with smart technology and clever behavioral solutions.

Decreasing Expenses

The federal minimum wage in the United States is just $7.25 and it has not changed since July 2009. However, according the Bureau of Labor Statistics, the cost of living has increased by 14.5% during the same time period. Thus, for the 2.2 million people earning at or below the minimum wage, decreasing expenses is critical.

As a result, we focused our efforts on a number of ways in which low-income households could decrease their expenses. We worked on 13 projects, partnering with nine organizations. Of these projects, we launched six optimization experiments (with one more set to launch in Q1 2018) and created six prototypes.

This year, we focused on helping consumers decrease three expenses:

1. **Taxes Preparation Fees:** The IRS's Volunteer Income Tax Assistance (VITA) program sponsors sites around the nation where low-to-moderate income (LMI) filers can have their taxes prepared for free.

However, only 3% of qualifying returns were prepared at VITA sites. Over 62% of filers used a paid preparer. This means that many people are paying an average of $273 to have their taxes done by a paid preparer.

With Robin Hood Foundation and Ariva, a tax preparation site in the Bronx, we used reminders to help past clients come back to Ariva.

This simple intervention increased retention rates from 33% to 37%, saving filers over $21,000 in tax preparation costs.

With Robin Hood Foundation and Urban Upbound, a tax preparation site in Long Island City, New York, we focused on increasing the number of new clients. We optimized their referral lottery, making the lottery more tangible and concrete. When friends and family received a tangible, physical ticket (not just a promise of a lottery ticket), the number of people who came in from a referral increased five-fold.

ROBIN HOOD
TARGETING POVERTY IN NEW YORK CITY

Lastly, with United Way of Tucson and Southern Arizona, we used social proof to encourage filers to save time and money by using a scan-and-go tax preparation service (Valet Vita). We increased use of Valet Vita from 16% to 28%.

2. **Food Expenses:** Last year, we started studying which purchases people tend to regret the most. In partnership with Qapital, a financial management app, users rated their past transactions on how much they regretted each expenditure.

   In our analysis, we found that people have 70% more regret on purchases made at restaurants, coffee shops, and fast food establishments. This was consistent with our survey research, showing that people want to reduce their food expenses. This was expected, as food-related expenses are the most frequent and most visible. Middle income households spend more than 13% of their income on food, while the lowest income households spend more than 32% of their income on food.

If a consumer borrowed **$24** for three days and paid overdraft **$34** the loan has **17,000** percent APR

We partnered with CoinFlip, a startup that makes it easy to link grocery coupons to a grocery store's loyalty card. This helps people save money on their grocery bills by making couponing easier.

We changed CoinFlip's marketing emails and tested whether changing the call to action from "sign up" to "claim" would have an effect.

We found that the "claim" condition significantly increased open rates and click-through rates compared to the control condition (19% and 30%, respectively).

With Arizona Federal Credit Union, we tested whether telling people how much they are spending in comparison to their peers decreased their food expenses. We found that when people complete our entire intervention, they spend $17 less on eating out expenses in the following week.

With Propel, we are focused on helping SNAP recipients plan their grocery trips to reduce unnecessary food expenses. We launched an intervention that helps people plan their shopping on a weekly basis. This experiment is still in the field.

3. **Bank Fees:** The Consumer Financial Protection Bureau (CFPB) found that the majority of overdraft fees were incurred on transactions of $24 or lower and were repaid within three days. As the authors write, "Put in lending terms, if a consumer borrowed $24 for three days and paid the median overdraft fee of $34, such a loan would carry a 17,000 percent annual percentage rate (APR)."

We partnered with Chime, a no-fee online bank, to develop bankfeefinder.com, a free tool that allows consumers to see how much they spend on fees each year and easily switch to a no-fee bank. Thousands of people have used the tool and hundreds have opened a no-fee bank account.

We also worked with Chime to experiment with their sign-up flow in order to increase the number of people who switch to a no-fee bank. This experiment is still in the field.

Lastly, we are working with Freedom First Credit Union to prevent people from incurring overdraft fees in the first place. We launched an experiment that alerts members when they have a low balance, with the aim of preventing overdraft fees. We expect results by Q2 2018.

Increasing uptake of scan-and-go tax services with decision aids

2017
United Way of Tucson and Southern Arizona

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

The IRS's Volunteer Income Tax Assistance (VITA) program sponsors sites around the nation where low-to-moderate income (LMI) filers can have their taxes prepared for free. However, only 3% of qualifying returns were prepared at VITA sites. Over 62% of filers used a paid preparer. This means that many people are paying an average of $273 to have their taxes done by a paid preparer.

We partnered with United Way of Tucson and Southern Arizona (UW) to address how to increase uptake of Valet VITA, a a scan-and-go version of the IRS's drop-off filing services. Valet VITA allows filers to be interviewed, have their documents scanned to a secure cloud platform, and leave with all their documents in hand – a process that takes 15 to 20 minutes. Their returns can either be picked up at the same site or sent to them through encrypted email about one week later.

Each year, UW serves approximately 2,500 taxpayers in the Tucson area through their VITA sites. Their Valet VITA system serves as a model for many organizations similarly seeking innovative solutions. The service significantly cuts down on wait times at VITA sites for those who opt in while also providing an opportunity to take advantage of other on-site services, such as tax time savings, access to banking tools for the unbanked, and more. Even though the standard model of filing taxes is often more time-consuming than Valet VITA, taxpayers have not changed their behaviors during tax time to include consideration of these other service delivery models.

55% of employees are getting their schedule at most a week before, and **10%** only the day before

Behavioral Diagnosis and Key Insights

In a brief behavioral diagnosis, due to the time constraints of the tax season, we held meetings with UW to explore the preparation process in-depth and discuss the barriers that prevent tax filers from choosing Valet VITA. Through this process, we established that the following barriers likely come into play when filers make their decisions for how to prepare their taxes:

1. **People are rarely offered the services of Valet VITA unless the site is too busy to take in-person returns.** Many site volunteers have been working at VITA sites for years and are hesitant to incorporate new services into their routines unless they deem them helpful and necessary.

2. **People prefer to do their taxes with someone in person so they can ask questions and check that the taxes are done correctly.** Currently, the Valet VITA process feels less personalized, as people are used to preparing their taxes while sitting on-site with their preparer.

3. **People set the day aside with the goal of getting their taxes done and would rather wait than try an unfamiliar process that takes longer to complete.** Even though Valet VITA saves time on-site, the overall process is extended to at least a week while taxes are sent to the preparation hub. For many people, this means that they feel as if the process isn't yet complete, and that they have to wait to find out the amount of their refund.

Experiment

We chose to implement a test at VITA sites where site greeters would hand filers small sheets informing them about the two options available to file their taxes. We addressed the barriers above by testing different psychological appeals to nudge people towards using Valet VITA:

1. **Control:** Simply informing filers about their two options for filing.
2. **Ego Appeal:** Congratulating people on qualifying for Valet VITA in order to make it feel like a unique and coveted service.
3. **Decision Aid:** Highlighting the different circumstances under which people should use Valet VITA.

Sample sheets

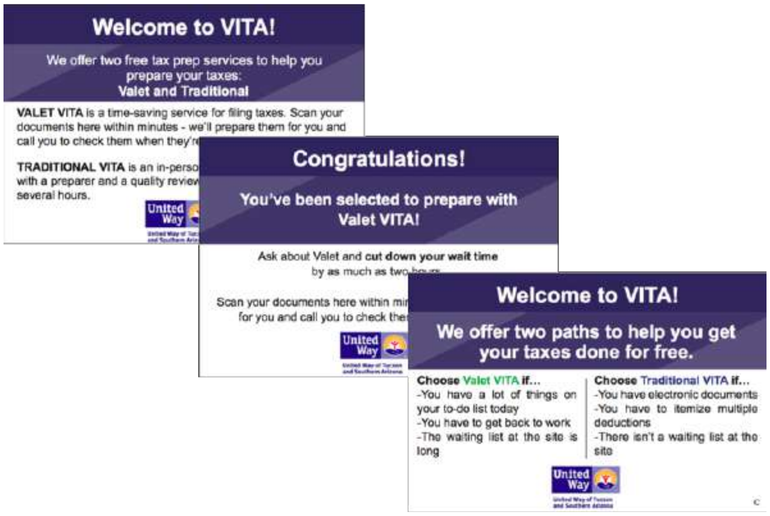


Figure 13: Sheets by condition

Results

Due to difficulties with implementation on-site, our sample size was smaller than we originally anticipated. Out of the 2,535 total filers who came into UW's VITA sites, only 559 filers received one of the three slips.

28.2% of filers who received the decision aid sheet choose to file with Valet VITA.

Yet, we still found some interesting results. The decision aid sheet was most effective, with 28.2% of filers who received this sheet choosing to file with Valet VITA, compared to 16.4% who received the control slip.

Experiment Results

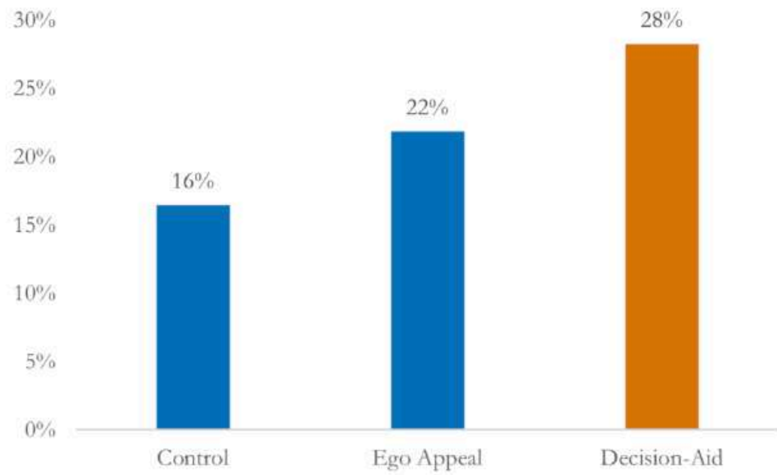


Figure 14: Utilization rates of Valet VITA by condition

Impact

As a result of this pilot, over a quarter of filers prepared their taxes with Valet VITA. This increase in uptake also translates to time saved for UW.

This means that with a full rollout, they would be able to increase their impact by serving even more taxpayers due to the time saved with increased use of Valet VITA.

Approximately **3,000 hours** were saved in on-site waiting time.

In a full rollout to the approximately 3,000 taxpayers that UW serves each year, we estimate that this intervention would lead to 846 people filing with Valet VITA, translating to approximately 3,000 hours saved in on-site waiting time.

We are continuing our partnership with UW to test another intervention to further increase uptake of Valet VITA, as well as a broader test to increase uptake of all VITA services among people who currently use paid preparers to file their taxes.

Using reminders to increase retention at free tax sites

2017
Ariva and Robin Hood Foundation

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

Even though most people look forward to tax refunds, the same cannot be said about the preparing and filing of the tax returns. Tax forms are notoriously complicated and the number of people who pay professionals to help them prepare their taxes is a testament to that. The average cost of professional tax preparation is $273, which can make this service inaccessible to the many low-income individuals who need it most.

To alleviate this problem, the IRS supports the Volunteer Income Tax Assistance (VITA) program, which provides free tax preparation services for individuals with limited income.

Although this free option exists, many of those vulnerable don't take advantage of it because of some of VITA's drawbacks (e.g. long waiting times, brand recognition, etc.). On top of this, many people fall victim to predatory tax preparers who offer clients "cash advances." We worked with Robin Hood Foundation, and Ariva, a VITA site in the Bronx in New York City, to test how different SMS messages could increase usage of the VITA site. Ariva operates nine tax sites in the Bronx and one tax site in Manhattan. These sites serve around 10,000 tax filers each year.

Their main location, in the Highbridge area of the Bronx, serves over 4,000 tax filers each year. Roughly 35% of Highbridge residents live below the poverty line.

Behavioral Diagnosis and Key Insights

We conducted two full days of observation, along with ten hours of qualitative interviews with key staff members, preparers, greeters, and other volunteers. We noted that:

- **Filers love Ariva.** Overwhelmingly, filers have a strong sense of connection to the staff. They feel valued and respected. Yet, at the time, Ariva had limited outreach efforts, choosing to rely more on word-of-mouth than traditional marketing tactics.
- **Filers often don't bring all of the necessary documents.** Filers would often forget important tax documents, extending the preparation process. In addition, many forget to bring their savings account information, reducing the likelihood of them saving part of their tax refund.

Experiment

Prior research has shown that SMS reminders are an effective way to change behavior change. For example, text messages have been shown to increase patient attendance, credit scores, and savings rates. SMS reminders can help bring issues top of mind and focus attention. Thus, we wanted to create a SMS reminder that would help to increase Ariva's filer retention rate and increase a filer's likelihood of saving part of their taxes.

We split Ariva's existing user base of 4,307 former clients into four different conditions (including a control which received no SMS).

Control	Reminder	Savings Message	Reminder + Savings
No SMS	Hi [Maribel] it's time to file your taxes. Come to Ariva to file for FREE. Remember to bring your ID, Social Security Card, W2s or 1099s, and ROUTING and ACCOUNT numbers for both your SAVINGS and CHECKING accounts. Will you come in this year? Text Yes or No	Hi [Maribel] it's time to file your taxes. Come to Ariva to file for FREE. If you get a refund this year, what percentage of your refund do you want to save? Text A if you want to save more than 25%, B = around 25%, C = less than 25%	Hi [Maribel] it's time to file your taxes. Come to Ariva to file for FREE. Remember to bring your ID, Social Security Card, W2s or 1099s, and ROUTING and ACCOUNT numbers for both your SAVINGS and CHECKING accounts. If you get a refund this year, what percentage of your refund do you want to save? Text A if you want to save more than 25%, B = around 25%, C = less than 25

Figure 15: SMS by condition

In crafting the SMS messages, we wanted to remind users of Ariva, highlight the benefits of filing with Ariva (a free service), invoke action (via direct questions), and prime clients to think about saving.

Result

At the end of the tax season, Ariva filed 3,702 tax returns. Compared to the no SMS reminders condition, both our simple reminder and our reminder + savings condition increased attendance. This simple intervention increased retention rates by roughly 12%, from 33% in the control to 37% in the simple reminder and reminder + savings conditions.

Experiment Results

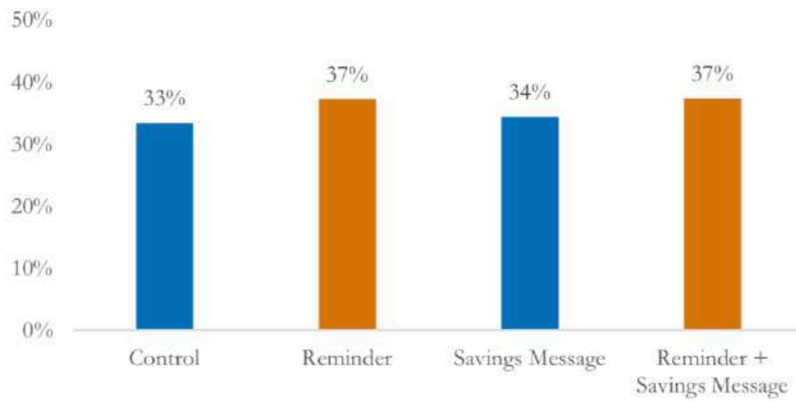


Figure 16: Retention rates by condition

As a secondary measure for this experiment, we also wanted to see if we could savings. We were hoping to measure savings rates by measuring the number of people who split their tax refund into a checking and a savings account by filing the Form 8888 tax form. Unfortunately, we weren't able to track actual Form 8888 submissions to each filer.

Impact

The simple intervention of sending a one-time text, led to an additional 83 people attending Ariva. This is especially impressive given our intervention cost less than $65 total to implement. Assuming these clients would have gone to a paid preparer, our interventions saved over $21,000 in tax preparation costs just from sending out messages to clients of this one VITA site. Scaling this intervention across more VITA sites in the United States could lead to millions more in additional savings for low-to-moderate income Americans

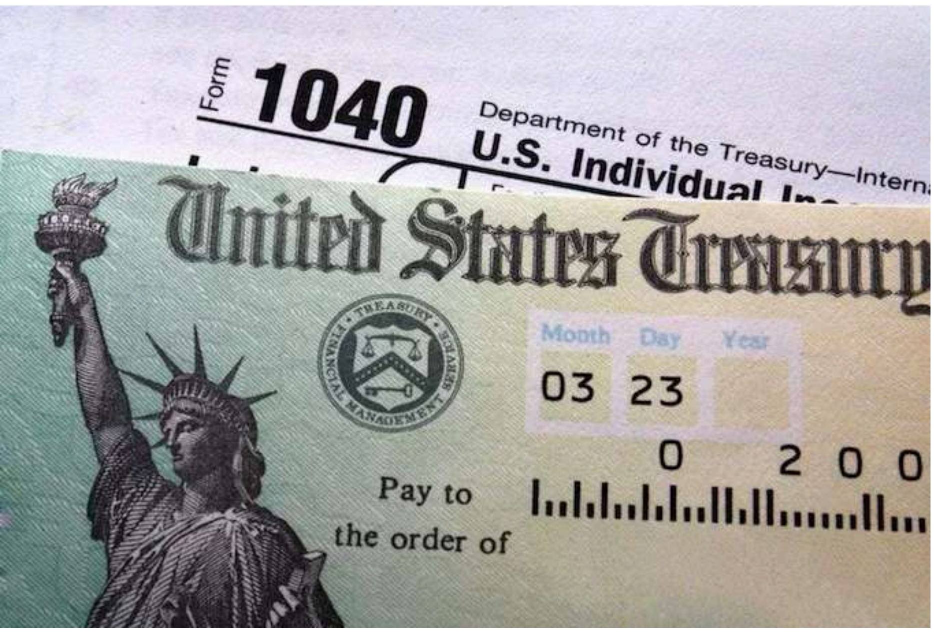
Our $65 intervention led to $21,000 in savings, increasing retention to VITA sites by 12% from 33% to 37%

Using tangible lottery tickets to increase referrals

2017
Urban Upbound and Robin Hood Foundation

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed



Each year, 150,000 New Yorkers get their taxes prepared for free at Volunteer Income Tax Assistance (VITA) sites. However, an estimated five million New Yorkers qualify for this service. More than half of those who qualify for the free service end up spending about $250 for the services of a paid tax preparer instead. Furthermore, about 20% of households eligible to receive the Earned Income Tax Credit fail to claim it while completing their taxes, missing out on an average of $2,447 in tax credits. VITA sites save filers money on the front end, as well as increase returns on the back end. The sites, however, they are highly underutilized.

In partnership with the Robin Hood Foundation, we worked with an Urban Upbound VITA site in Long Island City, New York, to increase the number of VITA filers through a friend and family referral program.

Behavioral Diagnosis and Key Insights

We wanted to increase the number of current VITA filers that recommend the site to friends and family and increase the number of referred households that actually come to the VITA site to file their taxes. Through conversations with staff, observations of the VITA site process, and insights from existing behavioral research, we identified the following barriers to achieving the key behaviors:

1. **Filers don't tell friends and family about VITA's services.** VITA referrals may not naturally come up in conversation between friends and family. People often forget. Even satisfied filers may only share the information with friends and family who explicitly ask them about filing taxes. In addition, there is no personal benefit for making a referral.

2. **Filers may not refer, and the referred may not go, if they aren't sure if they are eligible for the free service.**

3. **Friends and family decide not to file at VITA.** The referred may not go to VITA because they have already filed their taxes or because they want to stick with how they always do their taxes. The referred may not want to go because they don't trust VITA sites, believing it to be an inferior service because it's free. Finally, the referred may not want to go because they want to speed up the refund process, so they use the services of a paid preparer in order to get an anticipation loan.

Experiment

To increase referrals at the Urban Upbound LIC VITA site, we conducted a referral lottery. Filers were given the opportunity to make any referrals immediately after they had their taxes prepared but before they left the site.

Each referral card had a unique referral code and the filers' name and phone number. Filers could then take a photo of the referral card and text the photo to up to ten people. The filer would then receive a scratch ticket for each person they texted to give to their friend or family. If the scratch ticket is a winning scratch card, the referrer and the referred split the earnings equally.

With a total reward value of $5,000, it was important to establish that the random reward incentive was worth the cost. Additionally, we had conflicting hypotheses about the tangibility of the ticket. It is theoretically easier to refer more people if you can do it entirely digitally.

However, there is an additional power around tangibility and concreteness (as well as heightened curiosity and potential regret) to motivate the referred to come to the site if they have the physical ticket. Therefore, we had three different referral cards that we randomly distributed during intake.

1. **Simple Referral:** A simple referral with no mention of any scratch card.
2. **Promised Ticket:** A promised scratch ticket that the referred could collect at the site.
3. **Physical Ticket:** A physical scratch ticket that the referrer received to give to the referred to bring to the site.

Filers were gently encouraged to take a picture of the referral card and text it while still at the VITA site. We then tracked how many photo texts were sent from each card and how many new filers came in with each unique referral code. We compared these metrics across all three conditions to determine the most effective way to increase the number of people referred and the number of referred people who act on that referral to get their taxes done.

Results

During the tax season, we asked about 2,590 filers if they wanted to make a referral and 17% of those filers texted at least one person a photo of their referral card.

Experiment Results

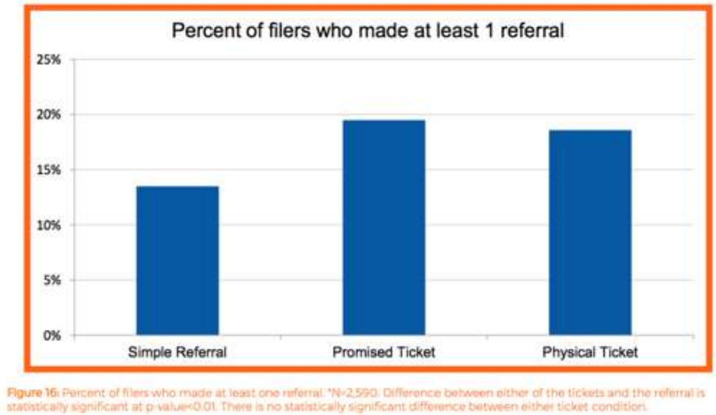


Figure 17: Percent of filers who made at least one referral per condition

Those who texted sent the image to 4.2 people, on average. In this pilot, the referral program resulted in 1,845 text messages to tell people about the LIC VITA site.

However, only about 2% of those who received the text messages came in to file their taxes at the site. So while the referral program was effective at making referrals, it was less effective at encouraging follow-through by the referred. However, we did find meaningful differences between the referral cards:

- The scratch ticket (promised or physical) increased the number of people who made a referral by 60% (N=2590; p-value<0.01). However, once someone decided to make at least one referral, the number of referrals made did not vary across conditions.
- Those who received the tangible ticket were almost five times more likely to come to the VITA site to have their taxes prepared when compared to the simple referral.

  Less than 3% of filers who made a simple referral had a referrer come in, compared to over 10% of the filers who received a tangible ticket. This experiment demonstrates the real value of concreteness and tangibility to motivate behavior.

Experiment Results

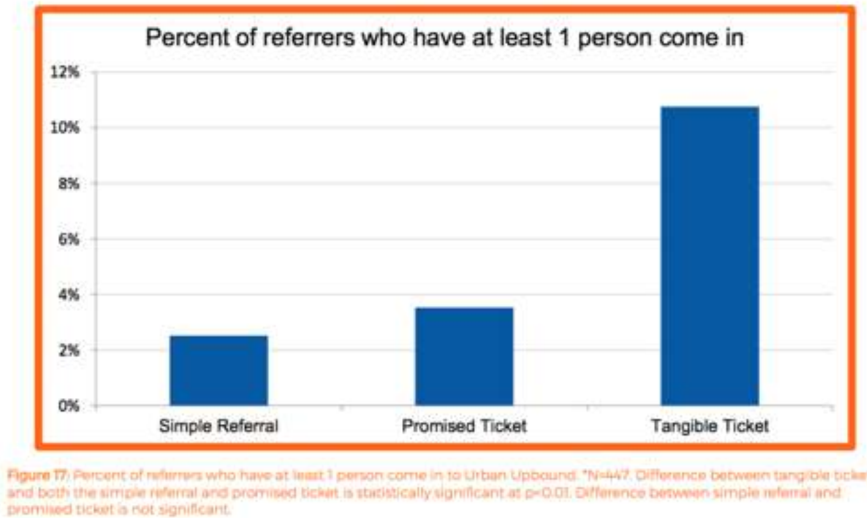


Figure 18: Percent of filers who have at least one person visit Urban Upbound

Impact

In this pilot, 1,845 people received a text message about the VITA site, but it ultimately only brought in 31 new filers. However, 40% of the new filers claimed the earned income tax credit (EITC), which totaled an additional $15,673 in tax credits to these families. If the tangible lottery ticket were to be scaled across New York VITA sites, we would expect this to lead to 116,850 text message referrals, 3,391 more filers, and an additional $1.77 million in tax credits.

Scaling the tangible lottery ticket across New York should to lead to an additional $1.77 million in claimed tax credits.

Framing the call to action to drive sign-ups

2017
CoinFlip

Partner Type: Startup
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

In 2016, middle-income households spent 13.1% of their income. The lowest income households spent 32.6% of their income on food. That's almost as much as most Americans spend on housing. Given this high cost, people want to reduce their food expenditures. In both our qualitative and quantitative studies, when we ask people where they could cut their expenses, most respondents cited their food expenses. To help consumers reduce their food expenses, we partnered with CoinFlip, a company that allows users to link their grocery discounts to their grocery loyalty cards.

Behavioral Diagnosis and Key Insights

CoinFlip was still in beta mode when we launched our partnership. Thus, we wanted to inform their communication strategy from a behavioral perspective straight from the onset. After analyzing their initial mocks and sign-up flow, we realized that we needed to give potential users a reason to sign-up. Grocery discounts are not that exciting. Thus, we knew we needed to amplify the perceived salience of the ask.

Experiment

We conducted an email experiment with one of CoinFlip's partners, a national nonprofit that provides benefits and discounts to its members across a number of grocery stores. Instead of clipping coupons, members can just sign up for CoinFlip and digitally link the discounts provided by Coinflip's partners to their grocery loyalty cards.

We tested whether changing the call-to-action button on the marketing emails from "Sign Up" to "Claim" would increase sign-up rates. From a behavioral perspective, "claim" highlights both a sense of scarcity (other people are claiming this limited resource) and ownership (this resource is mine). Thus, it pulls both on social proof and the endowment effect. Our "sign up" served as our control condition and our "claim" email served as our experimental condition.

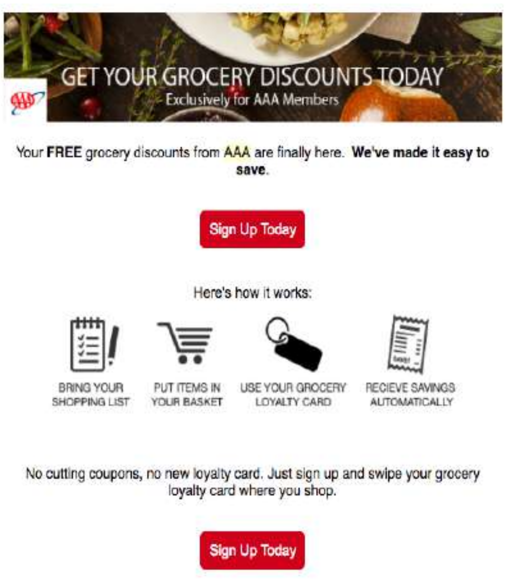
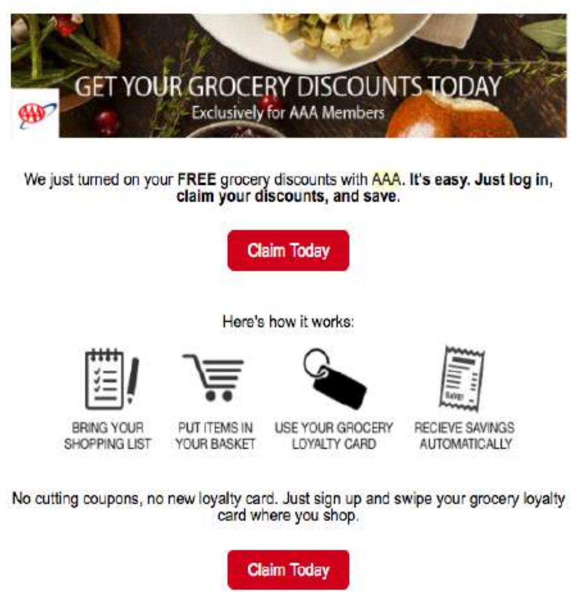
Control Condition	Experimental Condition
	

Figure 19: Emails by condition

Results

We emailed over 195,000 discount provider members and saw significant differences in engagement between our "sign up" and "claim" emails. Our "claim" condition increased open rates by 19% from 26% to 31%. The "claim" condition also increased click-through rates by 30% from 11% to 14%. Our experiment led to an additional 114 sign-ups over the control, increasing sign-up rates by 28% over the control.

Experiment Results

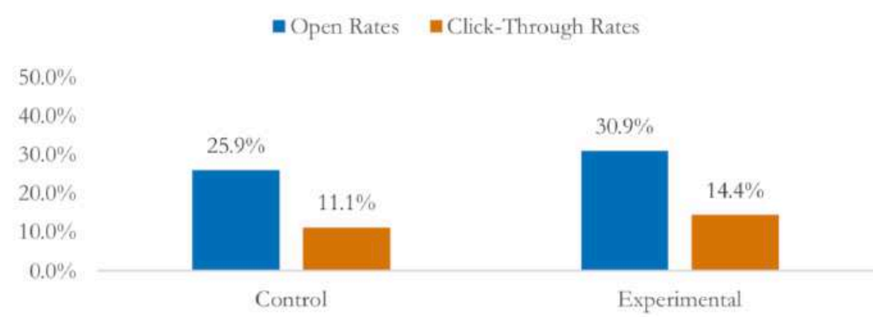


Figure 20: Open rates and click-through rates by condition

Impact

Our work had a significant impact on how CoinFlip views their value proposition. As a result, we helped CoinFlip redesign the calls to action on their emails, sign-up flow, and landing pages.

The endowment effect is now a central part of their messaging. CoinFlip boasts over 125,000 users, all of whom have gone through our updated sign-up flow and marketing materials.

Using social proof to decrease discretionary spending

2017
AZFCU

Partner Type: CU
Project Type: Prototype

Partner Cohort: 2017
Project Status: Completed

In 2016, more than half of Americans said they were actively looking for ways to cut back on weekly spending. Yet, federally collected spending data shows that on average, individuals spent 2.4% more in 2016 compared to 2015.

To help people spend less, we tested if social proof could be used to effectively drive lower spending. This an extension of our some of our social proof studies from 2016.

We partnered with Arizona Federal Credit Union (AZFCU), an innovative, 125,000 member credit union, and NCR's Digital Insight™ banking solutions for credit unions and banks. Together we designed a social proof intervention that would help AZFCU members reduce their expenses.

Behavioral Diagnosis and Key Insights

We began our diagnosis by understanding where people see the biggest gap between others' spending compared to their own and where they feel they can make a change. We conducted a survey on Amazon Mechanical Turk and then compared those results to what others actually spent using federally collected spending data by the Bureau of Labor Statistics.

This deep data analysis allowed us to get four meaningful insights about spending:

1. **People believe others spend more than they do.** Research has shown that the "Lake Wobegon" effect, a well-documented tendency to overestimate our own abilities and qualities, is strongest for behaviors that are easy, common and controllable like spending. As such, we found that people thought others spent more than they did in all 11 spending categories.

2. **People are surrounded by spending.** When asked to think about the spending of others, most people immediately conjured up images of packed restaurants and lines for the newest iPhone. Research shows that we have a tendency to use this ease of recall to estimate an event's importance or frequency. Our study showed that the relative gap between what people thought others spent compared to what they spent was highest for highly visible, public expenditures such as transportation, eating out and recreation.

3. **People believe they can easily curb their eating out expenditures.** Respondents rated eating-out spending and fees as being the easiest to change, while housing and transportation were rated as the hardest to change.

4. **People have a very hard time accurately estimating what they spend.** Most of our respondents estimated values for their own spending that were rounded

down to the nearest 10 and well-below what federally collected data would suggest based on their income and household size.

People overestimate others' spending versus their own spending

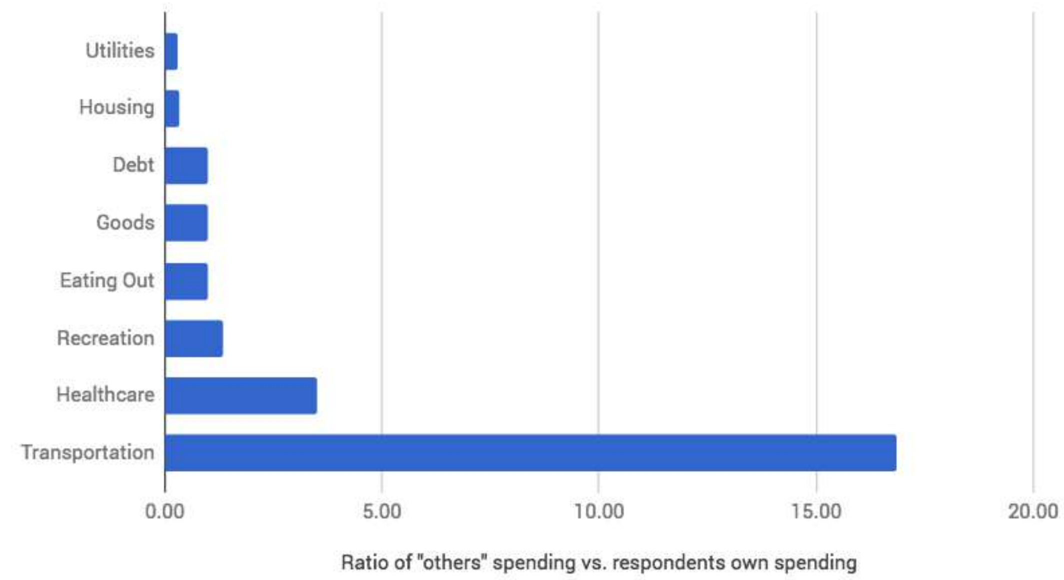


Figure 21: Ratio of how much respondents think others are spending vs. what respondents are spending on each category

Experiment

To combat people's overconfidence about their own spending, we employed social proof. Social proof is the idea that when people are unsure of the correct way to behave, they will often observe and follow the behavior of others. Eating out spending was a category that people felt they could change. It's also a category we know people regret spending on, which makes it a good candidate for testing social proof.

The intervention we designed worked as follows. First, we identified 11,000 members of the credit union who had some eating-out spending in the previous three months and who used FinanceWorks (a personal financial management tool that would let us track their actual spending).

Eight thousand of those members were offered the chance to estimate their monthly eating-out spending via an email and the remaining 3,000 were not sent the email and kept as a control.

Those that choose to participate via the email were then shown how their spending compared to people like them (people with similar incomes and household size in their geographic region).

To accomplish this, we collaborated with Plaid to leverage anonymized, aggregated data insights. Plaid empowers consumers to securely connect their financial data with third-party applications. They power some of the top financial tools and services available today, including Clarity Money, Digit and EarnUp.

On that same page, after seeing what other people spend, participants were asked if they wanted to increase, decrease, or keep their spending the same.

Finally, they were also asked how much they planned to spend next month and what cost-cutting behaviors they wanted to commit to.

For the subsample of AZFCU's population that was using FinanceWorks, we were able to track their real-life transactions and see how their eating out spending changed following the intervention.

Results

We launched our experiment to Arizona Federal Credit Union members on June 2017. Among the 8,000 members who received the intervention email (our full treatment group), 401 members started the intervention. Before we analyzed spending behaviors between the groups, we identified a few key insights:

1. **People are interested in others' spending.** Our email had a 22% click-through rate. This was 2.4 times higher click rate than past emails from the credit union.
2. **People did think others were spending more than them.** People estimated others were spending around 18% more than they were spending on eating out.
3. **People don't want to see bad news.** Roughly 35% of the people who were told they were spending the same or less than others dropped out of our experiment. In contrast, 58% of people who were told they spend more than others dropped out of our experiment.

So did people reduce their spending? The results suggest that people who went completely through the treatment were more likely to reduce their spending in the following week.

In fact, they spent about $17 less in the following week than the control group. However, this only holds if they both committed to spending less next month and specified an amount.

They reduced their spending over the following month by $21, but this was only marginally significant (p=.06).

Experiment Results

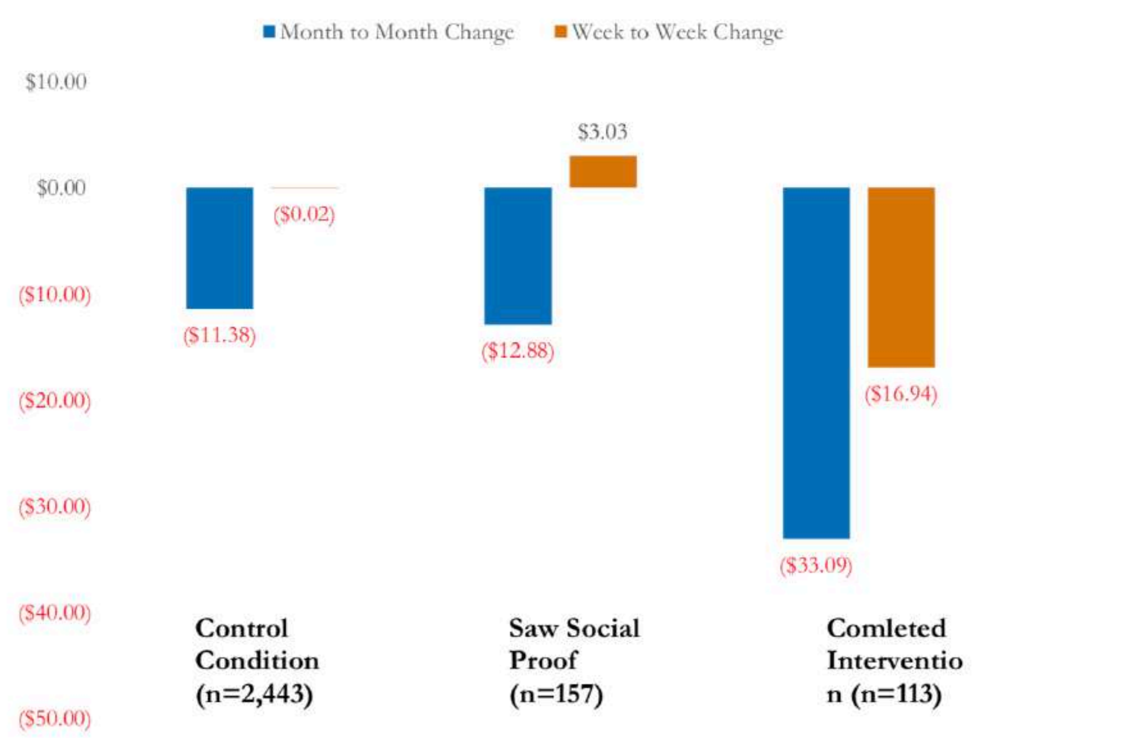


Figure 23: Change in eating out expenditures by conditions

Our results do have limitations. First, people who received a social proof message that showed they were spending within +$100 of the norm or more than +$500 were almost 12 times more likely to drop out of our study. Since our intervention was only effective for those who completed the full experience, we are unable to disentangle whether our results were due to the selection bias or our actual intervention. Future studies will work to understand this.

Impact

In total, 270 users received social proof feedback. Roughly 58% of these users spent less the following week on eating out, 22% higher than in the control group. They also saved a total of $2,224 over the previous week.

If rolled out to AZFCU's full population (in a way where everyone completes our full intervention), we'd expect to see an additional 13,276 people spend less the following week and a total reduction of over $2 million in eating-out spending across all members in the following week.

The scratch ticket (promised or physical) increased the number of people who made a referral by **60%**

We are in the process of running the same intervention with a broader network of credit unions.

In our next iterations, we will focus on getting more people to complete the full intervention and helping people turn their success cutting expenses during their first week into a longer term and more durable change.

Can simply reminding people to go shopping save them money on groceries?

2017
Propel

Partner Type: Startup
Project Type: Prototype

Partner Cohort: 2017
Project Status: In Field

The Supplemental Nutrition Assistance Program (SNAP) is the most effective anti-hunger safety net program. SNAP is an integral part of the American hunger safety net – with 42 million people, roughly one in seven Americans, currently receiving SNAP benefits.

Sadly, most SNAP participants do not receive enough to cover their grocery bills: the average family uses up 80% of their benefits in just two weeks. How can we help people stretch these benefits?

Last year, we partnered with Propel, a fintech company that makes a mobile app called Fresh EBT, which allows SNAP participants to easily check their electronic benefit transfer (EBT) card balance and transaction history. Fresh EBT users can also find stores that accept SNAP, make a shopping list, clip digital coupons, and access other resources that help them save money and stretch their EBT dollars.

In our first experiment with Propel, we found that breaking up the monthly SNAP deposit into four weeks and displaying a recommended weekly budget helped users make their benefits last up to three days longer. This resulted in about nine extra meals per month. The experiment was so successful that Propel rolled out the recommended weekly budget to over 1 million users.

This year, we wanted to test how we could help Fresh EBT users stretch their benefits even further. In analyzing Propel's data, we found that Fresh EBT users go food shopping 14 times per month on average, and that 26% of their transactions are under $6.

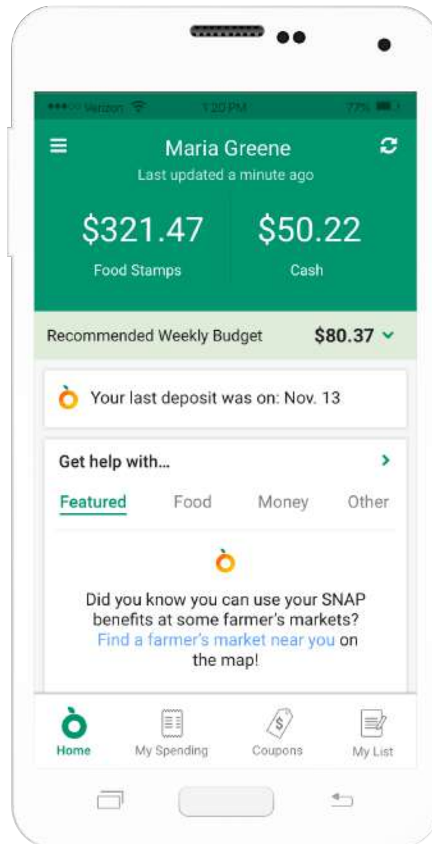
FreshEBT users go food shopping **14** times per month on average. **26%** of their transactions are under **$6**

SNAP participants are likely purchasing food from smaller, local retailers at a premium, rather than grouping their food purchases into several larger, less frequent trips, which would save them money. We decided to test how we could help Fresh EBT users better plan their shopping to save money.

Behavioral Diagnosis and Key Insights

Building on our previous work with Propel, we analyzed the spending patterns of over one million users in their database – how often they go shopping and on which days – and conducted over a dozen qualitative interviews with SNAP recipients. In addition, we ran several online surveys with hundreds of participants to optimize the language of the new app feature.

Our analysis of spending patterns, as well as the online survey, led to the following insights:



1. **SNAP participants may be overspending due to insufficient planning.** People may be going to the corner store at the last minute because they are unable to plan their grocery trips ahead of time. We decided to focus on helping SNAP participants save money by helping them plan their trips.
2. **Users don't have a strongly preferred day of the week for grocery shopping.** They are equally likely to shop on each day of the week. This indicates that we could anchor them to a specific day.
3. **Users tend to check the app fairly frequently.** The FreshEBT app would be an effective place for our intervention.

To help FreshEBT users better plan their grocery trips, we removed barriers in two ways:

1. We allocated a specific day for grocery shopping (Wednesday).
2. We sent a shopping reminder the day before about their upcoming grocery trip.

We further amplified the benefit of potential savings by giving FreshEBT users a compelling reason to shop on Wednesday: it is the first day of the weekly promotion cycle in some supermarkets, so the highest number of discounts would be available on that day.

Therefore, we used the behavioral principles of reminders and planning, paired with building a habit over time through consistency (a reminder to go shopping every week) and a benefit that is salient to the user (first day of the promotion cycle).

Experiment

We tested the effectiveness of reminders through a two-condition experiment. First, we chose Food Lion as the target retailer for our experiment because all Food Lion stores have a consistent promotion cycle starting on Wednesday.

We then randomly assigned 20,000 FreshEBT users who had shopped at Food Lion in the last month to one of two conditions. Those in the experimental condition first saw the opt-in message (below, left) asking them if they'd like to receive reminders. Those who opted in then received a push notification (below, right) every Tuesday reminding them to go grocery shopping. The notification included a link to the Food Lion circular to further encourage FreshEBT users to plan their shopping trip in advance. Those assigned to the control condition did not see the opt-in message nor did they receive any reminders.

Experimental Condition

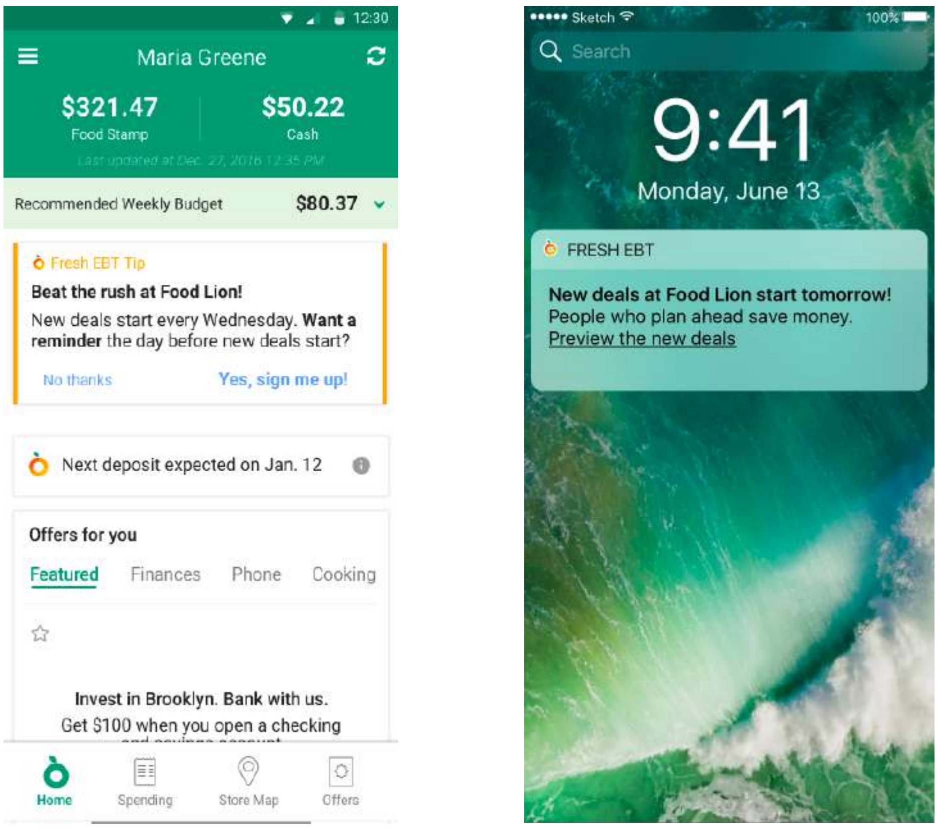


Figure 24: Change in eating out expenditures by conditions

Results

The experiment launched in late September 2017 and will run until January 2018. So far, 16.5% of FreshEBT users in the experimental condition opted in to receive reminders. To evaluate the effectiveness of our intervention, we plan to compare all FreshEBT users in the experimental group to control participants, on the following measures:

1. **Adherence to shopping on Wednesday:** We predict that those who opted in to receive reminders will be more likely to go shopping at Food Lion on Wednesday.
2. **Percent of purchases under $6:** Those who opted in should be able to plan their shopping trips better and should have a lower percentage of small purchases.

Can associations to one's future self (or dissociations from one's past self) drive sign-ups?

2017
Chime

Partner Type: Startup
Project Type: Optimization
Partner Cohort: 2017
Project Status: In Field

The Consumer Financial Protection Bureau (CFPB) finds that the majority of overdraft fees were incurred on transactions of $24 or less and were repaid within three days. According to the CFPB, "If a consumer borrowed $24 for three days and paid the median overdraft fee of $34, such a loan would carry a 17,000 percent annual percentage rate (APR)."

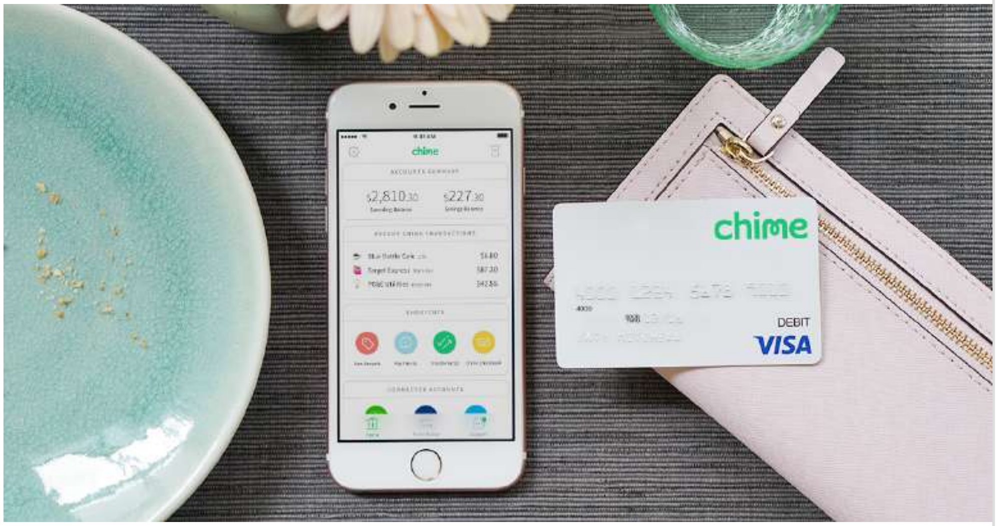
To help people not have to pay these fees, we partnered with Chime, an online bank with no monthly fees, no minimum balances, no foreign transaction fees, no overdraft fees or transfer fees.

Behavioral Diagnosis and Key Insights

We ran a number of intuition studies and found that people massively underestimate how much they pay in bank fees. That's because we tend to not remember our mistakes. Thus, we helped Chime develop their Bank Fee Finder tool. Anyone can go online, link their bank account, and see how much they've paid in bank fees in the last year.

The tool has reached thousands of people and has made it easier for people to switch to a no-fee bank like Chime.

We also worked with Chime to launch their 10% auto-savings tool.



Through this tool, users can opt-in to automatically saving 10% of any direct deposits into their checking accounts. This tool led to more than $8 million in savings in the first few months.

To help more consumers sign up for Chime, we conducted an in-depth behavioral audit of their sign-up flow, analyzed their conversion data to identify significant drop-off points, and conducted in-depth interviews with Chime employees.

Our analysis led us to two key findings:

1. **There's a limited emphasis on benefits.** Their sign-up flow focused on simplifying the amount of inputs a user has to read and process. This is generally a good practice, but our behavioral analysis also found little callout to the benefits of opening a Chime account, that may have attracted applicants in the first place.

2. **There's a long delay before being able to use the card.** Due to the time constraints of physically mailing a debit card, and the technical restrictions of Automated Clearing House (ACH) transfers, takes a couple of days for a user to receive their Chime debit card and activate their account. We know that motivation decreases sharply with time, which was reflected in the data as a sharp drop-off in the number of users who continued on to the activation step.

People who went completely through the treatment were more likely to reduce their spending in the following week

Experiment

Together with Chime, we designed an experiment with the goal of increasing conversion, and ultimately savings, through their enrollment flow.

Past research from Dan Bartels and Lance Rips has shown that a closer association with one's future self can increase one's desire to save. Similarly, it may be the case that disassociating from one's past self can increase one's desire to avoid past sub-optimal financial behaviors. With this in mind, we ran an experiment within their enrollment process.

Social Proof Intervention

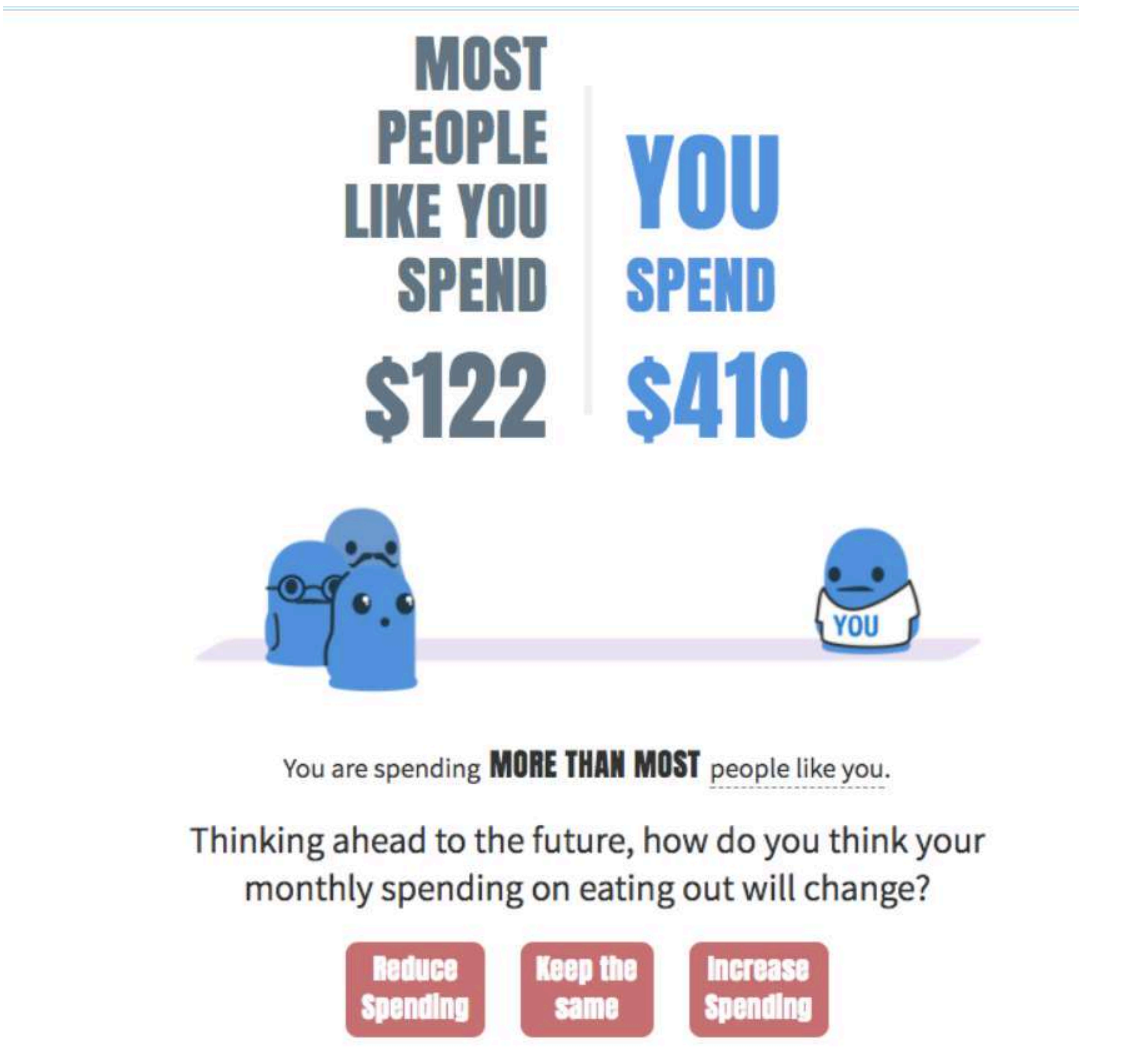


Figure 22: Sample screen of social proof intervention

In this experiment, called the Start Stop Experiment, we added two screens asking users in the middle of the enrollment process to answer if they're ready to start or stop being a certain kind of person.

Experimental Conditions

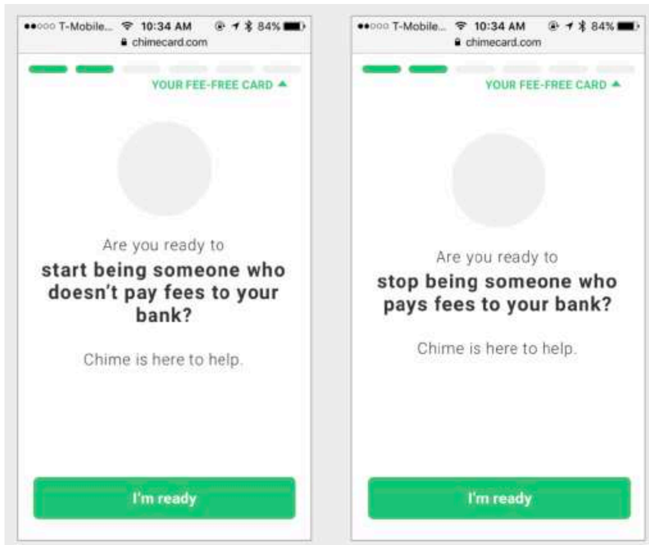


Figure 25: Sample screens for experimental conditions

Results

We launched our Start Stop experiment in July 2017. The experiment is still in the field. We expect to have results by Q1 2018. Our Initial Deposit experiment is set to launch in Q1 2018.

Reducing money wasted on overdraft fees.

2017
Freedom First

Partner Type: CU
Project Type: Optimization

Partner Cohort: 2017
Project Status: In Field

According to the Consumer Financial Protection Bureau, a total of $15 billion was spent in 2016 on fees for bouncing checks and overdrafting. Unfortunately, consumers gain no value from bounced checks.

And while there are some situations in which it may be necessary or prudent for a consumer to overdraft, there are many more situations in which doing so can be very harmful and provide little value.

Most banks charge steep fees for overdrafting, making the overdraft operate like a very small loan with a very high interest rate. What's more, the overdraft fee is often charged by overdraft incident, rather than proportional to overdraft amount, causing consumers to rack up fees faster than they may realize.

To understand what can be done to reduce unnecessary overdrafting and non-sufficient funds (NSF) fees, we partnered with Freedom First Credit Union, a credit union based in Virginia.

Behavioral Diagnosis and Key Insights

To gain a better understanding of factors that lead to members overdrafting and incurring NSF fees, we conducted site visits to Freedom First branches, interviewed six staff members, and analyzed fee data for all 4,207 Freedom First members who had overdrafted or incurred NSF fees in the previous six months.

250 members had more than 50 instances of overdraft or NSF fees in the previous six months

The behavioral diagnosis revealed that there were different causes of overdrafting and NSF fees for different groups of members:

1. Some members called in to the Freedom First branches to complain when they were charged these fees. These members were often unaware they were being charged fees for overdrafting or are unaware that their account balance was low.

2. However, over 250 members had more than 50 instances of overdraft or NSF fees in the previous six months. These customers were clearly suffering from deeper financial issues that could not be solved by a heightened awareness of fees or low account balances.

Experiment

We randomly selected 5,200 credit union members to participate in the first experiment. Those in the treatment groups received text message reminders if their balances dropped below $100.

Reminders were sent no more than once every two weeks, to avoid overloading those who have continually low account balances. To account for the different customer groups identified in the behavioral diagnosis, we implemented three different treatment conditions, along with a control.

Condition	Purpose	Message
Control (N=1,300)	No text message reminder.	N/A
Reminder (N=1300)	Reminder highlighting fees to take advantage of loss aversion.	"Alert: your balance dipped below $100. If you go below $0, you may incur fees up to $32 per transaction."
Opportunity Cost (N=1300)	A prompt to think of other things the money could be spent on.	"Alert: your balance dipped below $100. If you go below $0, you may incur fees up to $32 per transaction. Imagine what else you could buy with that money!"
Call In (N=1300)	A prompt to call the Freedom First branch, intended for those who may be aware of the low balance but may need more assistance to avoid fees.	"Alert, your balance dipped below $100. If you go below $0, you may incur fees up to $32 per transaction. Call your Freedom First branch at 540-339-3860 for help getting through the month."

Figure 26: Summary of conditions

Results

This experiment is launched in December 2017 with 5,200 members. We expect to publish our results by Q2 2018.

Learnings from the Lab: What Millennials can teach us about spending thoughtfully

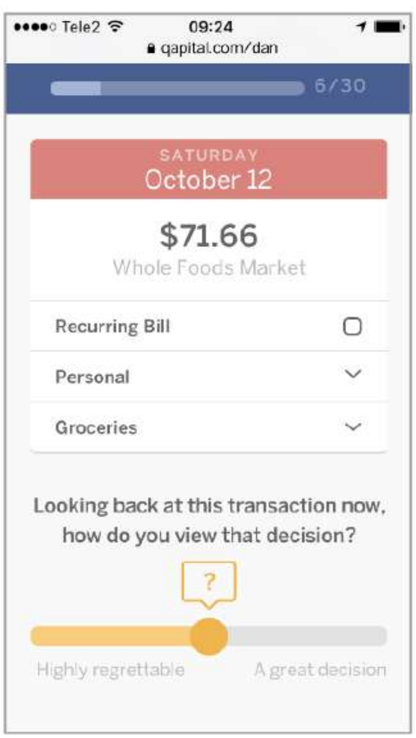
2017

Partner Type: Startup
Project Type: Lab Learnings

Partner Cohort: 2016
Project Status: Completed

Millennials are the largest living generation in the United States. To understand what makes Millennials tick financially, we set out to measure how satisfied they are with their purchases. Or, put a different way, to see which expenditures they regretted the most.

Behavioral Diagnosis and Key



As explained in our 2016 report, we partnered with Qapital to explore this question. Qapital is a mobile banking application that helps people save money by enabling them to set up automatic savings rules.

Together, we designed a survey tool that allowed users to link to their bank account in order to reflect on past purchases. They could then rate the most recent 40 transactions on a scale from 1 (highly regrettable) to 100 (a great decision).

So, what did we find? From analyzing about 30,000 transactions dating back to the beginning of 2015, here are the four key insights we collected:

1. **Millennials spend on enrichment and on others.** In the study, we measured what types of purchases were most pleasing to people and when they were most pleased with their purchases. Five different types of purchases generated a satisfaction level of 75% or above (in order): community, healthcare, utilities (including rent), arts & entertainment, and education. Overwhelmingly, these all have to do with self-preservation or enriching oneself.

At the same time, Millennials were much more content with purchases made mid-week and in early December. From this, we can infer that purchases made for others (during the holiday season) bring more pleasure, and that people tend to prefer those purchases made mid-week (Wednesday had the highest satisfaction rating) over those potentially made more impulsively on the weekend.

Together these insights suggest we can derive the highest satisfaction when buying for others, when enriching ourselves, or when making thoughtful and deliberate purchasing decisions.

2. **Put the essentials on auto pay.** Millennials were generally about 10% more satisfied with recurring transactions compared to non-recurring ones. One reason for this is because humans are great adapters.

   Our first experience of something is novel and interesting, but after several similar experiences the novelty and our attention wanes until we no longer have the same response. Rip off a Band-Aid once and it hurts. Rip it off multiple times and we begin to discount the pain. In the same way, more noticeable transactions are more regretful.

By setting up automatic payments for recurring and relatively stable transactions such as rent, insurance, and car payments, we can discount the financial pain of those payments and become more satisfied with them as regular occurrences. On the other hand, they make the payments we're likely to regret (another round of drinks or fast food) more obvious and novel because the latter are more likely to be paid for in cash.

3. **Limit impulse buys.** While those expenses that are necessary for living – rent, healthcare, groceries – reside near the top of the satisfaction results, the more optional purchases fall to the bottom.

   Millennials rate bar purchases, digital subscriptions, convenience store buys, coffee shop expenses, restaurant visits, and fast food purchases as their least satisfying expenditures. Only bank fees rate lower.

These types of purchases can often be made on the weekends, when Millennials also showed a high degree of regret. We can begin to reason that Millennials take far greater pleasure in making responsible, deliberate and necessary purchases over spontaneous, frivolous ones.

4. **Second guess the small stuff, but don't rationalize the big buys.** Across all types of purchases, Millennials were less satisfied with smaller purchases than with larger ones. Why do we regret smaller purchases more?

   People often look backwards to justify their decisions rather than making decisions based on sound reasoning and evidence. If we spent a lot of money on something that we didn't like, we rationalize ourselves into believing that we must have made a good purchase because it was an expensive one.

We can learn two lessons from this experiment. First, question the small purchases. Just because that latte only costs $4 does not mean it's inconsequential or won't bother us later. Second, research the big purchases. Instead of rationalizing them away after the fact to justify the expense, research and make an informed decision. Your happiness will thank you on both counts.

Impact

Qaptial has used these findings to inform their ongoing innovation and product development. For more analysis on this subject, see our published report.

Managing Debt

The New York Federal Reserve released a recent report showing that, collectively, U.S. households have racked up more than $12 trillion in debt, leaving a majority of Americans just one emergency away from financial hardship

To help individuals access good credit, manage their debt, and reduce their interest payments, we've worked on eight projects, partnering with six different organizations. We launched four optimization experiments (with two more set to launch in Q1 2018) and one prototype (with two more set to launch in Q1 201).

We focused our efforts across four broad themes:

1. **Preventing auto loan defaults across different parts of the funnel.** Over four million Americans are more than 90 days late on their car loan payments. This is the highest late-payment rate since the height of the financial crisis.

One reason for this increase in late-payment rates could be that people are not aware of the true cost of owning a car, underestimating the cost of gas, insurance, and maintenance costs. Thus, we created an auto loan calculator to help users understand how much they should pay for a car given their income and expenses. The auto loan calculator highlights the true costs of owning a car, reminding people of all car-related expenses they would incur.

We also partnered with Beneficial State Bank, a California-based community development bank, to increase on-time payments of auto loans. We are changing people's auto loan payment dates to match their pay day. This experiment is set to launch in Q1 2018.

2. **Reducing credit card and debt interest.** Given the rise in credit card debt in recent years, we want to help consumers optimize their credit card payments and reduce their interest payments.

We developed a prototype nicknamed "Kill Bill" which encourages consumers to call their credit card company and ask for an interest rate reduction. Credit card companies reevaluate their rates every couple of months, and making a two-minute call could save the average American hundreds of dollars.

We are leveraging the Kill Bill prototype in our work with LendStreet, a debt settlement startup. Many LendStreet borrowers have existing credit card debt that was not included in their debt settlement plan.

We are also developing a credit card statement dashboard that outlines how people should pay down their credit cards to save on interest and discourages them from paying the minimum amount. This prototype will be released in Q1 2018.

Lastly, we are working with EarnUp, an income payments matching startup, to encourage borrowers to round up their payments and save on interest.

3. **Increasing access to good credit.** Millions of people in the United States lack access to credit. Thus, when faced with a need for capital, such as that needed to finance a small business, they may be forced to turn to unregulated payday or online lenders who lend more than the borrower can repay and charge sky-high

interest rates. To increase access to capital, we partnered with **Accion**, a flexible and responsible lender to small business owners. We tested how different message prompts and deadlines impacted the rate of completed loan applications. This experiment is still in the field.

4. **Increasing uptake of credit counselor agencies and retention of debt management plans.** For many borrowers, the debt burden can become unmanageable. To avoid bankruptcy, consumers seek credit counselor agencies, debt management plans, or debt resettlements. However, the uptake and retention of these programs are low. Changing these metrics is extremely difficult.

We partnered with Navicore Solutions, a credit counseling agency, to change the counselors' scripts to increase uptake of the service. And while we did find evidence of increased trust in the service, it did not necessarily translate into increased uptake rates.

We
also partnered with GreenPath Financial Wellness, a debt management plan (DMP) provider to increase borrowers' retention in the program by providing periodical encouraging messages. This intervention did not impact retention.

Using short language cues to build trust in credit counselors

2017
Novicore

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

If left to their own devices, individuals are prone to making biased financial decisions. These biases are particularly significant as the financial marketplace grows increasingly complex. In light of this complexity, financial advisors and counselors could play an important role by potentially connecting consumers with low-cost products and services and by helping them make better decisions.

Yet, the use of financial advice remains low, particularly among low-income households. Research estimates that 40% of those making less than $25,000 a year receive any kind of financial advice (compared to over 70% of high-income households).

40% of those making less than **$25,000** a year receive any kind of financial advice

Previous research has found that trust is critical both for seeking financial advice but also implementing the advice. Increasing trust would lead to a greater uptake of beneficial products, and it may also help counselors make more personalized recommendations as participants share more details about their financial circumstances.

We have partnered with Navicore Solutions, a credit counseling agency, to explore ways in which we could use language cues to increase trust in credit counselors.

Behavioral Diagnosis and Key Insights

Our partnership began by conducting site visits to Navicore's headquarters, where we listened to credit counseling calls. We also spoke with credit counselors and Navicore staff members about why it is difficult for people to trust counselors. We conducted interviews with individuals who recently went through a credit counseling session. Finally, we conducted a quantitative analysis of administrative data provided by Navicore.

The diagnosis yielded a number of key insights into the barriers to trusting the financial counselor.

1. Callers tend to prioritize their initial interactions with the counselor, thus making the beginning of the counseling session very important to building trust.
2. Callers' trust in credit counseling broadly depends on two components: their perceptions of the counselor's expertise and the counselor's empathy.

Based on these findings we conducted two experiments to help increase trust in Navicore's financial counselors.

Experiment 1: Conveying expertise and empathy with Feel, Felt, Found statements

In our first experiment, we trained credit counselors to use a "Feel, Felt, Found" (FFF) statement.

The FFF statement was designed to increase trust by incorporating an empathy statement ("I know how you feel") and by using social norms to signal expertise ("I've worked with a lot of clients and they found this successful").

We measured trust in three ways:

1. We asked every caller to take a post-session survey. Previous research suggests that if counselors increase trust, callers are more likely to do small favors for them.
2. We used administrative data to track information provision among completed sessions. If counselors increase trust, the caller is more likely to share personal information.

Results

Figure 28: Regret by purchase type

3. Lastly, we measured the percent of callers who completed the counseling session.

Callers were randomly assigned to one of two groups of counselors. The first group was trained to use FFF statements, while the second group went about the session as usual.

The counselors in each group were randomly selected and balanced to ensure equal experience. In total, 1,026 members were included in the experiment, with 623 in the treatment group receiving the FFF statement, and 403 in the control group with no change from standard counseling practices.

Experimental Condition

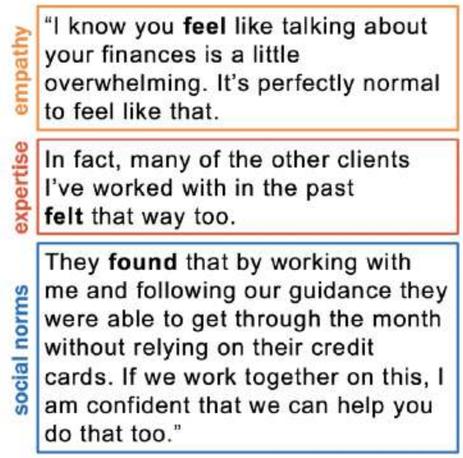


Figure 29: Sample FFF statement

Results

We found that there is evidence to suggest that using an FFF statement did increase trust. We saw a significant difference in the percentages of clients who started the survey.

We also noticed a significant increase in information disclosure among callers. We believe this led to better counseling sessions for 623 members, as the credit counselors had more accurate information to work with.

We saw a significant difference in the percentages of clients who started the survey

However, these trends were moderated by caller demographics, as the FFL statement was less effective for Hispanic and Latino callers.

We also believe the increased trust will result in a greater chance of success on a debt management plan– with greater trust in the counselor, the members are more likely to follow recommendations and engage at future points with Navicore.

However, the potential increase in trust did not translate into a higher conversion rate, suggesting that either there is a ceiling effect around 70% or that there are more important barriers preventing callers from finishing a session.

Experiment Results

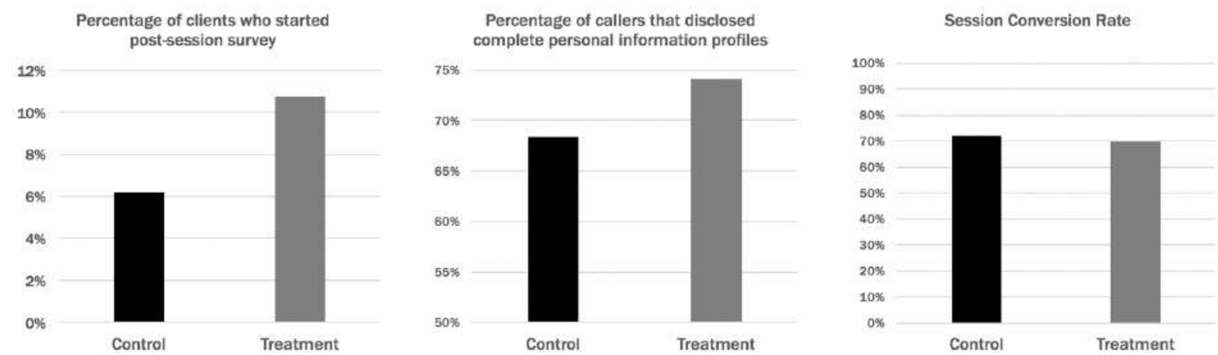


Figure 30a: **Results by condition**

Our experiment suggest that trust is context specific – whom we trust and how much we trust them is partly shaped by small factors in our environment. Financial counselors and advisors should be aware of these factors – even small changes in how they interact with clients can significantly shape their relationship.

Experiment 2: Redesigning the counseling introduction with a verbal contract

Because initial interactions are important, we aimed to redesign the introduction to the credit counseling session in our second experiment. The original introduction prioritized collecting caller information, asking clients about their objective financial circumstances, and reading credit counseling disclosures.

One group of counselors continues the introduction as it is. Two other groups offer a redesigned introduction that differs in two ways. In the first group, counselors ask callers about how their financial circumstances are causing them stress rather than collecting information about objective financial circumstances. This helps counselors connect with callers on an emotional level.

In the second group counselors also ask about financial stress. In addition to that, they offer a verbal contract. Research has demonstrated that contracts serve an important purpose when intrinsic trust is difficult to build. In the new introduction, the informal contract helps clients feel they will be treated with honesty and respect. The contract also incorporates elements of reciprocity by detailing what clients are expected to do in return.

Experimental Condition

I promise to be honest with you about the pro's and con's of different options and I won't push you towards something that isn't right for you. For me to know what is right, though, you have to be open and share some information with me about your finances. Does that sound ok to you?

We have to work on this together – I know a lot about what different options are available, but you are the expert of what's going on in your life. The only option that will really work for you is the one that fits your individual circumstances. This means, though, that to evaluate what's going to work, you have to play an active part in the session. This only works when we are both engaged, so I really need you to stick with me throughout the call. It won't take too long and it's very important. Are you willing to stay with me and finish the session today?

Figure 31: Sample Experiment Statement

Results

We found that there was some evidence to suggest that the re-designed introduction did increase trust. While fewer individuals opened the post-session survey, that difference was not statistically significant. Furthermore, callers with the new introduction were significantly more likely to share personal information. As with the Feel, Felt, Felt statement, we believe this led to better counseling sessions for 234 callers.

The verbal contract, on the other hand, appears to have hurt trust. Significantly fewer people started the online survey and were willing to share personal information. While contracts can promote cooperation during interactions when intrinsic trust is difficult to build, they have been shown to reduce interpersonal trust.

Alternatively, using the verbal contract may have made the counselors feel more uncomfortable, which translated into lower levels of trust. We hypothesized that while the verbal contract would likely be less effective in terms of trust-building, it may be more effective in terms of session conversion.

This was not the case, as neither the re-designed introduction nor the use of a verbal contract had a meaningful effect on call conversion..

Experiment Results, Second Experiment

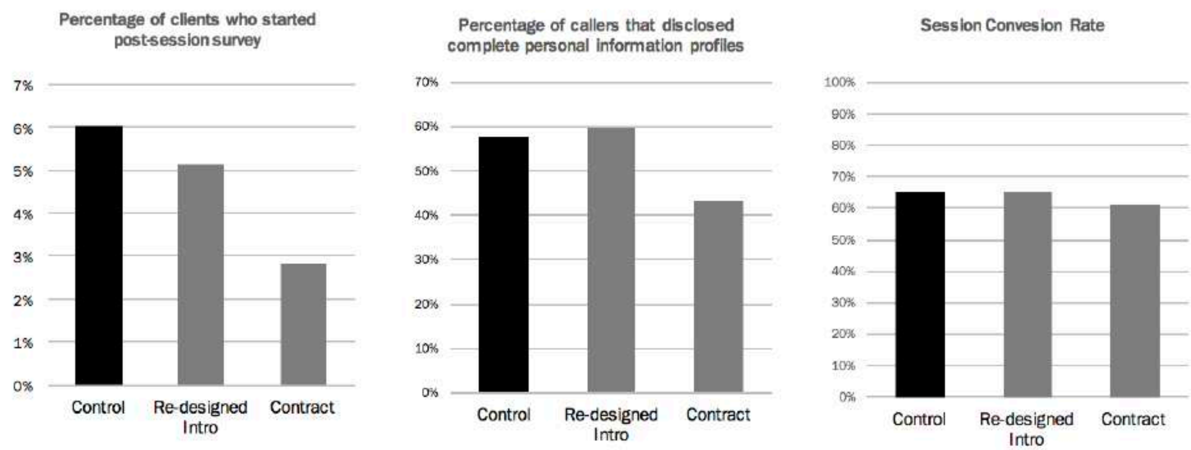


Figure 30b: Results by condition

Our experiments suggest that trust is context specific – whom we trust and how much we trust them is partly shaped by small factors in our environment. Financial counselors and advisors should be aware of these factors – even small changes in how they interact with clients can significantly shape their relationship. For organizations offering these services, our experiments suggest that the confidence of frontline staff. Efforts to improve customer satisfaction and engagement should ensure frontline staff feel comfortable and confident with any new initiative.

However, our experiments suggest that, within the context of financial counseling, trust does not limit a caller's willingness to finish a counseling session as we hypothesized. Instead, other factors –such as logistical factors at the time they are calling and how tenuous their financial situation is – seem to play more important roles. This is not to say that trust is not important. Rather, the effects of trust are likely diffuse and harder to measure with respect to this specific metric.

The effect of encouraging messaging on duration and retention in a debt management plan

2017
Green Path

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2016
Project Status: Completed

Living burdened with debt negatively affects all aspects of someone's financial well-being. High debt payments can strain a household's monthly balance sheet, turning even small or unexpected expenses into emergencies. High amounts of debt can also reduce credit scores, making it more expensive and difficult to acquire assets or to find credit in case of emergency. While troubling, access to and use of credit cards is at an all-time high in the United States. The New York Federal Reserve released a recent report showing that, collectively, U.S. households have racked up more than $12 trillion in debt, leaving a majority of Americans just one emergency away from financial hardship.

GreenPath Financial Wellness offers a debt management plan (DMP), which can help individuals get out from under burdensome debt. DMP clients make payments directly to GreenPath, who in turn distributes these funds to the creditors.

GreenPath also negotiates with creditors directly. This often means that clients begin repaying their debt at lower interest rates, reduced fees, and at a lower monthly payment. However, the transition into a DMP is difficult and many clients do not finish, thus forgoing the benefits the DMP offers them.

Behavioral Diagnosis and Key Insights

We listened to counseling sessions and conducted interviews with counselors and other staff members to better understand the DMP experience. The team also followed up with qualitative interviews directly with DMP clients. This qualitative work was supplemented with an in-depth quantitative analysis of administrative data. Through this work, we identified several key barriers that ultimately shaped the design of the intervention.

The first six months show the highest rate of attrition before leveling off around the six-month mark.

1. **The value of the DMP is distant and abstract.** DMP clients find it difficult to see progress toward a goal that feels neither quickly attainable nor concrete.

2. **The first six months are especially difficult for DMP clients.** The transition to a DMP is especially difficult for clients. The first six months show the highest rate of attrition before leveling off around the six-month mark.

3. **Early in the DMP, the focus is to achieve programmatic goals or to overcome programmatic setbacks.** The communication early in the DMP often reflect those goals rather than providing motivational messages.

Experiment

We designed a series of encouraging messages that would be sent to clients when their DMP was activated, at the three-month mark, and at the six-month mark. These messages intended to increase the amount of communication with clients and to signal to clients that they are making progress on their DMP.

We randomly assigned new DMP clients to receive these messages, while others continued the DMP as they would normally.

In addition to the emails, we also randomly assigned half of those receiving the encouraging messages to receive a follow-up phone call. By varying the type and degree of outreach, we could test whether encouraging messages are more or less effective depending on the mode of communication.

Results

We enrolled 3,683 new DMP clients for four months starting in December 2016 and ending in March 2017. In our analysis, we measured:

1. The total number of days the client had an active DMP account in the first six months.
2. Whether the client had an active account at the end of the data collection period.
3. Whether the client reached the three-month and the six-month marks in their DMP.

We did not see an effect of the messages on any of the primary outcome measures

We did not see an effect of the messages on any of the primary outcome measures. The encouraging messaging had no effect on program duration or client retention, regardless of the mode of outreach.

Our intervention likely failed to have an effect either because encouraging messaging is the wrong type of messaging or the messages were not timely enough.

There are opportunities to explore other kinds of messaging or more frequent messaging. We did not test using text messages, which may be a more effective channel to reach clients.

However, our analysis does point to a variety of other factors that are likely more influential in terms of program outcomes. Specifically, our analysis suggests:

1. Participants with higher savings are more likely to succeed in a DMP.

2. Income on its own has little effect on DMP performance, but how income relates to expenses is important. Individuals with larger households and individuals with lower incomes relative to area median income (AMI) tend to have worse outcomes on a DMP.

3. Clients with more unsecured debt actually tend to perform better in the DMP, likely because they see greater value from a DMP as their unsecured debt increases.

4. Unlike unsecured debt, clients with high amounts of student loan tend to perform worse in their DMP.

5. Female DMP clients tend to have greater success on a DMP relative to their male counterparts, but this difference is mitigated by savings.

Going forward, organizations interested in helping individuals repay debt would likely be better off tailoring interventions that leverage these factors, which our analysis suggests are likely to have a larger impact.

Reducing debt with a single phone call

2017

Partner Type: --
Project Type: Prototype

Partner Cohort: --
Project Status: Completed

Credit card debt has ballooned in recent years, reaching more than $1 trillion for the first time since the Great Recession. According to NerdWallet's 2017 household debt study, the average household that is carrying credit card debt owes over $15,000, which costs an average of $904 in interest annually.

To help these households, we focused on creating an intervention that helps consumers to lower their interest on their credit card. We call it "Kill Bill."

Behavioral Diagnosis and Key Insights

Credit card companies often reassess consumers' credit scores every six months. Through these evaluations, consumers may be eligible for lower interest rates or promotional 0% interest periods. However, often times consumers have to call and ask for these lower interest rates. To understand the barriers consumers are facing when it comes to calling their credit card companies, we observed more than 20 individuals negotiate their phone and credit card bills over the phone.

Building on these qualitative interviews, we ran a series of surveys with more than 5,000 people that delved into past experiences and outcomes with bill negotiations.

Through consolidation of these qualitative and quantitative insights, a few themes emerged:

We ran a series of surveys with more than **5,000** people that delved into past experiences and outcomes with bill negotiations

1. **Calling is the primary barrier to overcome.** The most crucial step is calling the credit card company. Once participants got on the phone, their likelihood of continuing to complete the task was very high. But, people are busy. It seemed like there is never a good time to call your credit card company.
2. **Success with lowering APR is not related to negotiation skills.** Contrary to much of the financial advice and guides which highlight the importance of negotiation skills, we found that success with getting a lower interest rate was just asking and waiting through the hold.

Experiment

Based on our data and observations, we created a basic prototype of a product that would advise people to call and lower their credit card interest rate. Then we ran a seven-condition experiment on Google AdWords to test different messaging content that would motivate someone to call the phone number that was listed. When individuals called the phone number listed, they would be directed to a voicemail which gave them instructions on how to find the right phone number to call and why.

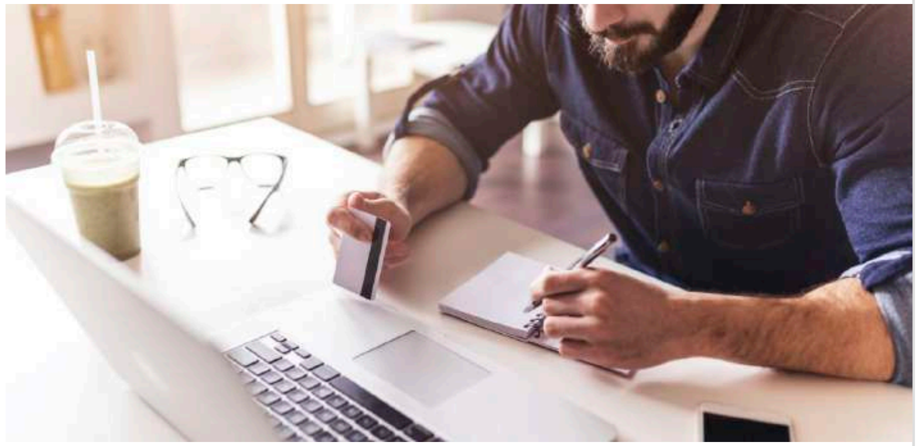
Condition	Ad Text
Control	Call [study phone number]- Great way to save money Lower your APR and save big Call to lower your credit card APR!
Secrecy	Call [study phone number] - Secret money hack The APR trick you'll tell everyone Call to lower your credit card APR!
Outrage	Call [study phone number] - Are you getting screwed? APRs are unfairly high, lower yours Call to lower your credit card APR!
Earnings	Call [study phone number] - Earn fast money now Lower APR, get massive returns Call to lower your credit card APR!
Simplicity	Call [study phone number] - Simple way to save big It's easy: one call to lower APR Call to lower your credit card APR!
Income Shock	Call [study phone number]- Job loss? Hours cut? Lower APR when you need it most Call to lower your credit card APR!
Scarcity	Call [study phone number] - Hurry: will be gone soon APR tip so good it'll be taken down Call to lower your credit card APR!

Figure 33: Ad text by condition

Results

From our experiment, we found the most motivating messaging, by far, was the message that shrouded the action of calling in some mystery.

In this condition of our experiment, the ad message reframed the task of calling a phone number to lower your credit card APR as a “Secret money hack” and “The APR trick you’ll tell everyone.” Alternative wording used to create the idea of secrecy performed similarly well in other tests, solidifying the conclusion that it was the principle of mystery and secrecy that drove the effect, rather than the specific language used to convey the concept.



This condition increased call rates from 3.8% in our control to 5.22%. All of the other conditions were not statistically different from the control condition.

Experiment Results

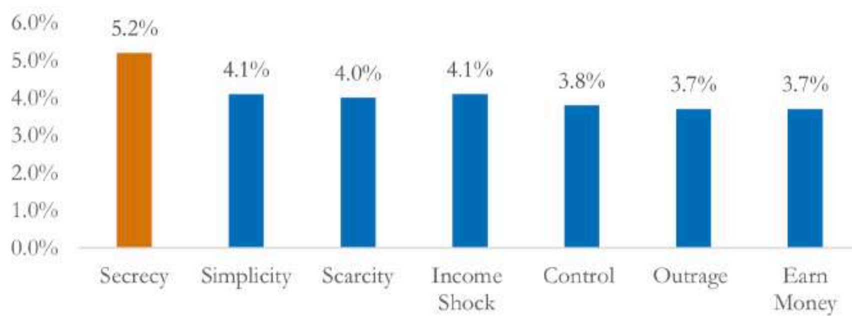


Figure 34: Call rates by condition

Though we were able to track if an individual actually called the random number we told them to call, we were not able to track if that individual continued on to call their credit card issuer directly. However, we were able to get a proxy measure of interest by tracking how long a person listened to the voicemail we directed them to.

We dispensed almost five hours of one-on-one financial advice to 955 different people in this experiment just by directing them to an automated voicemail. It was amazing to see that such a high percentage of people listened to so much of the message, instead of immediately hanging up. A small number of individuals also called the same number back and listened to the message multiple times!

Results

These learnings can be scaled across multiple domains that still require people to take an action like making a phone call, such as making changes to credit reports or cancelling subscriptions. In addition, we are leveraging this work with our partnership with LendStreet, a debt settlement company. Many of LendStreet's borrowers who still have outstanding credit card debt after their debt settlement would greatly benefit from this tool.

Can we help people pay down their debt by decreasing their expenses?

2017
LendStreet

Partner Type: Startup
Project Type: Optimization

Partner Cohort: 2017
Project Status: In Build

More than one in three Americans (77 million) have unpaid, overdue debt. This financial strain significantly fuels stress, and it has detrimental outcomes both at home and in the workplace. In order to manage their debt and avoid bankruptcy, many consumers resort to costly and often predatory financial products that don't serve their best interests. We partnered with LendStreet, a financial services company whose mission is to help people get out of debt, rebuild their credit, and get a fresh start. LendStreet offers a loan which consolidates all of a consumer's existing unsecured debt into a simple loan at a discount. The average LendStreet borrower is able to see a principal balance reduction of 34.4% of their debt.

Behavioral Diagnosis and Key Insights

From our discussions with LendStreet and after conducting a data review of existing customers, we identified borrowers who had not restructured all of their outstanding debts. Those borrowers kept one or two small balance credit cards for liquidity. However, these credit cards often carry high interest rates.

Experiment

Given our findings we wondered if we could help users get a bit of slack in their budget by reducing the interest expense on their outstanding credit cards. Leveraging our work on the “Kill Bill” prototype, LendStreet will help users renegotiate their interest rates on their outstanding credit cards. We will run a randomized controlled trial to measure the effectiveness of this intervention on reduced interest rates and improved budgeting. We are launching this experiment in Q1 2018.

Can we nudge individuals into paying back their credit cards faster?

2017

Partner Type: --

Project Type: Prototype

Partner Cohort: --

Project Status: In Build

The state of consumer credit card is worsening, with credit card debt reaching more than $1 trillion for the first time since the Great

Recession. With this mounting credit card debt, we need to ensure that consumers are able to pay their debt in an efficient manner.

Managing credit card debt is complex. Credit card holders have an average of 3.7 credit cards. Consumers are expected to manage roughly four different payment dates, balances, and interest rates. Given this complex environment, we often resort to easy, yet sub-optimal, payment strategies such as paying off the smallest balance first.

To help consumers optimize their payment strategies, we are building a prototype of a consumer friendly credit card payment dashboard for financial institutions to adopt.

Behavioral Diagnosis and Key Insights

We analyzed multiple payment screens from different credit card companies. After reviewing over ten different payment screens, we concluded that in order to increase credit card payments, credit card companies should:

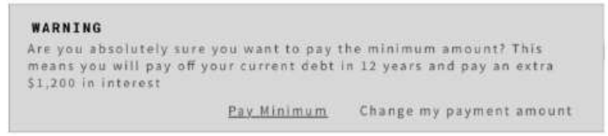
Credit card holders have an average of **3.7 credit cards**.

1. **Change payment defaults.** Currently, users are anchored on paying their minimum amount, current balance, full balance, or some other amount. However, these defaults are each highly flawed. Credit card companies should try to anchor people away from the minimum payment, by suggesting rounding amounts or presenting payment options on a slider, psychologically signaling that low payment amounts are bad and higher payment amounts are good.

2. **Increasing the benefits of paying more.** Credit card companies should highlight how much people are saving in interest by paying more than the minimum at the point of payment. In contrast, they should highlight how much you are paying in interest when you make a minimum payment.

3. **Consolidate credit cards and payment dates.** Credit card companies often issue different credit cards to the same individual. To make it easier on the consumer, the dashboard should detail aggregated debt amount and have the same payment date (which ideally aligns with users' income).

4. **Proactive prompts**. After consumers make a payment above the minimum payment, an automatic prompt should pop up asking consumers to make that payment an automated and recurring payment, highlighting the cost-savings of this strategy. In contrast, after consumers make a minimum payment, an automatic prompt should pop up asking consumers if they are sure that they only want to make a minimum payment, highlighting the cost of this strategy.

Sample Proactive Prompts	
	
Figure 35: Sample proactive prompts	

Experiment

We are in the process of building this dashboard and expect to launch it in Q1 2018. We are also seeking interested partners who would like to test out our new dashboard with their users.

Can we make the benefit of saving money more concrete?

2017
EarnUp

Partner Type: Startup
Project Type: Optimization

Partner Cohort: 2017
Project Status: In Build

Americans like cars and homes. As of 2017, there are about 150 million auto and mortgage loans outstanding in the United States carrying a sizable average liability. On average, Americans who have a new car loan are $30,032 in the red and homeowners who have a mortgage owe $106,132. This amount of debt is not only psychologically costly; it is also costing us real money. As evidence, the average interest cost for a mortgage totals $5,646 per year.

To help reduce the cost of debt, we partnered with EarnUp in 2016. EarnUp is a company that helps people pay off debt faster by timing their income and loan payments. In an experiment with EarnUp customers, we found that people are more likely to opt into overpaying their monthly loan when the option was framed as a "round up."

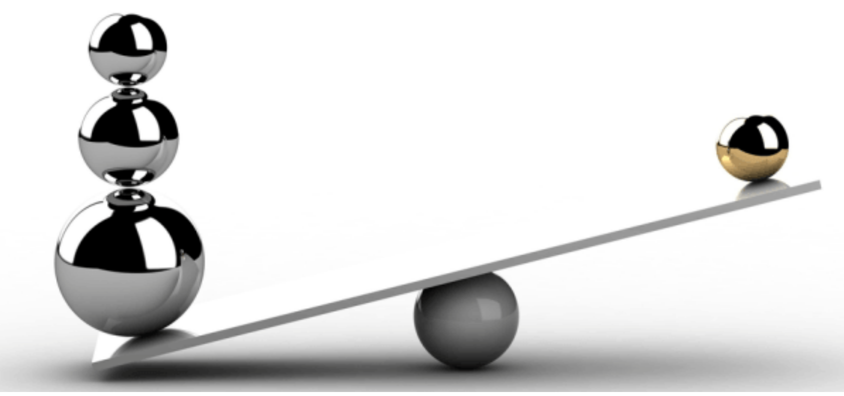
EarnUp moved this from a pilot to a full rollout and launched a "round up option" within their sign-up flow.

In 2017, we partnered with them once again to nudge customers to accelerate their debt pay-down.

Behavioral Diagnosis and Key Insights

While accelerating debt even a little every month can help consumers save thousands of dollars, understanding the impact of these large savings on our future self can be difficult. In our literature review, we found that other domains have successfully increased numeracy by providing concrete comparisons.

For example, researchers in the United Kingdom showed that presenting a label containing how much you would have to walk to burn off a snack pushed people to choose healthier snacks, as compared to just showing the number of calories contained in the snack. Daniel Goldstein and others have shown how newspapers have helped people digest and retain numerical facts by providing perspective-taking comparisons.



The second step of our behavioral audit was to narrow down on a particular concrete comparison that we could use for savings. To do this, we designed a 1,000-person study on Amazon Mechanical Turk. We hypothesized that people may be more motivated by large quantities of small items (a lot of pizzas and coffee) vs. one large item (a car or vacation).

To determine which was most motivating, we gave people the chance to win lottery tickets. We divided people into conditions and each condition was playing for different prizes. Some received the chance to play for a lot of one small-dollar prize (e.g., 1,000 coffees or sodas), some got the chance to play for a little bit of the medium-sized prizes (e.g., ten months of Amazon Prime) and some were playing for one big prize (e.g., a computer). Last, a few people got the chance to play for cash. Note that all the prizes added up to the same monetary amount, and we varied the type of prize people were offered. Then we asked them to answer a series of math puzzles.

Each puzzle answered correctly was a ticket in the lottery. The more they answered, the more effort they put in and the more we assumed they liked their prize option.

In our pre-study, cash rewards motivated the most effort. This wasn't terribly surprising as the game was hosted on Amazon Mechanical Turk, a platform for earning money. The most interesting results were the least motivating prizes – 1,000 coffees or 1,000 sodas. People were less attracted to the "large number/small prize" combination.

The least motivating prizes were the large number/ small prize combinations like 1,000 coffees

Experiment

We used the directional insights from our pre-study to design an intervention with EarnUp that compares the amount of savings someone would have from paying down debt faster to larger items they could obtain with those savings (cars or vacations).

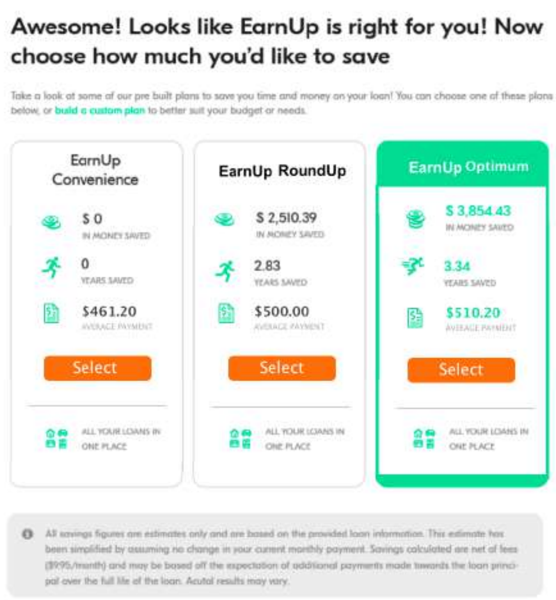
We made slight modifications to EarnUp's sign-flow to facilitate our experiment, asking people to round up their debt payments to save on interest.

Users are randomly assigned to one of two conditions, our control and our experimental condition. In our control condition, users see how much money they would save by rounding up your debt payment. In our experimental condition, users see how much money they would save by rounding up your debt payment and concrete items they could buy with the money they save (a vacation, a new car, etc.).

We hypothesize that giving the savings amount a reference point will help people internalize the value of EarnUp's product and increase round up rates.

Our experiment launched in December 2017 and will continue through February 2018, until we achieve a sample size of approximately 1,200. We expect to share results in Q2 2018.

Control Condition



Experimental Condition

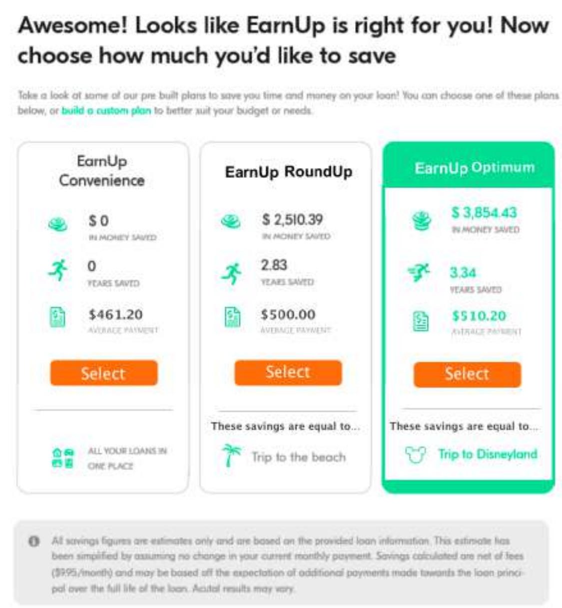


Figure 37: Sample screens by condition

Facilitating payments by matching repayment dates with income

2017
Beneficial State Bank

Partner Type: Bank
Project Type: Optimization

Partner Cohort: 2017
Project Status: In Build

New data from the New York Federal Reserve shows that over four million Americans are more than 90 days late on their car loan payments. This is the highest late-payment rate since the height of the financial crisis. There are many reasons someone may default on an auto loan (job loss, health emergency, etc.).

And as the U.S. Financial Diaries project demonstrated so clearly, Americans face increasing income and expense volatility, which can quickly lead to financial distress.

Behavioral Diagnosis and Key Insights

We partnered with Beneficial State Bank, a California-based community development bank, to reduce the repayment burden on borrowers and lessen auto loan repayment delinquency and defaults.

We performed a behavioral audit of the entire auto lending process, including a full day of field visits with a debt collector, several hours of listening to collections calls, and trying to buy used cars at six different car lots.

> Monthly loan repayments are typically due on the day that a borrower bought their car, not the day that's best for the borrower

Our behavioral analysis revealed a number of insights specific to Beneficial Bank's internal processes and barriers to repayment, as well as insights relevant to auto loan repayments broadly. One such insight is that almost universally, monthly loan repayments are due on the day that a borrower bought their car.

Qualitative research suggests that many people pay their rent and bills when they themselves get paid. People then spend the rest of their money until they are paid again. If their repayment due date falls far from a payday, it may be difficult to find the money to pay off their car loan.

Experiment

We created a two-condition experiment that focuses on this barrier in the repayment process. After revamping the borrower onboarding call, in one condition the payment due dates will continue to fall on the day that the borrower happened to buy a car, and in the other condition the payment due dates will be moved to coincide with the borrower's payday.

We will measure payment rates across conditions. The experiment is set to be launched in Q1 2018 to over a thousand Beneficial State Bank auto loan borrowers.

Using deadlines and just-in-time information to help small business owners complete loan applications

2017
Acoin

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: In Field

Small businesses need more access to credit, but many banks will not give business loans to owners who have less than two years of business history or who have low (or no) credit scores. With limited access to capital and new "alternative" lenders on the scene, however, more small businesses are falling victim to unregulated, predatory lenders. One study by Opportunity Fund found a 94% average annual percentage rate (APR) of their sample "alternative" loans. It is difficult to estimate the exact volume, though, because they are structured as commercial transactions instead of loans and are not subject to banking laws such as the Truth in Lending Act.

To help these small business owners, we partnered with Accion, a fair and flexible lender with over 6,000 borrowers. Accion also facilitates connections to business experts and access to resources and opportunities tailored to each business owner's unique needs and goals.

Behavioral Diagnosis and Key Insights

Before Accion grants a loan, they request some background information and documents, such as bank statements, business plans, or a profit-and-loss statement, in order to evaluate the health of the business. Gathering these documents may be cumbersome or overwhelming, and 26% of applicants who complete an initial application drop out of the flow at this point in the process, thereby not moving on to receive the loan to grow their business.

Even worse, they may instead turn to a predatory lender or "cash advance."

We chose to tackle this specific problem for our test because the barrier is large and the consequences of dropping out can be severe.

We reviewed Accion's application data and applicant funnel and interviewed over 20 people including applicants, borrowers, employees, and vendors across four regional offices.

This analysis led us to a couple of key insights:

1. **There is a high drop-off rate in the document collection phase**. Approximately 26% percent of all the people who completed the initial application withdrew before making it to underwriting (where the loan application is officially reviewed).
2. **Loan Officers and applicants specifically noted the document collection process as the most daunting and difficult.** Most applicants were pleased with Accion's responsiveness but were intimidated or frustrated with the time and effort the document collection required on their part.

Experiment

Based on the information we analyzed, we designed a four condition email experiment to increase the number of applicants who complete the application (specifically, completing the document submission phase of the application). We chose our four conditions from past research on the effectiveness of deadlines (including a previous Common Cents Lab project with Kiva) and just-in-time information.

After an applicant speaks with a Loan Officer about their desired loan, the applicant will receive an email that is randomly selected from four possible email templates.

1. Email including generic language with instructions for submission (control);
2. Email including a **deadline** (one week out) for documents to be received;
3. Email including a **link** to more information about the requested documents;
4. Email including both a **deadline** for documents to be received and the **link** to the document definitions.

Sample Email

Hi [NAME],
It was a pleasure speaking with you today and learning more about your business! I'm here to help guide you through this process, and am happy to answer any questions you have about Accion or our requirements. The following documents are required in order to move to the next stage in your application. [In order to keep us on track, please make sure to submit *all* requested documents by ___________, 2017.] [To learn more about what these documents are and where to find them, click here.]

Please submit the following to me (through email, fax, text, or in-person):

Figure 38: Sample email

Results

We launched this experiment across four regional offices in July 2017. This experiment will be in the field until Q1 2018. To date, over 300 applicants have participated. We plan on measuring application completion rates by condition.

Redesigning auto loan calculators to highlight opportunity costs

2017

Partner Type: --
Project Type: Prototype

Partner Cohort: --
Project Status: In Build

In 2016, auto loan delinquencies rose more than any other category, according to recent data from the American Bankers Association. Meanwhile, auto loans have grown at a rate of over 60% since 2012.

Behavioral Diagnosis and Key Insights

We performed a behavioral audit of the entire auto lending process, including a full day of field visits with a debt collector, several hours of listening to collections calls, and trying to buy used cars at six different car lots. We found troubling evidence suggesting that auto loan borrowers are being set up for failure.

Borrowers are pushed to spend the maximum that they can possibly afford.

1. **Gas, insurance, maintenance and repairs are not mentally accounted for.** When a borrower leaves an auto dealership, they have focused all of their mental energy on whether they can afford a $300 per month car payment. They either forget about or don't pay attention to the other costs of car ownership, which often total hundreds of dollars per month.

2. **Auto loan payments are framed in monthly terms.** While this may seem easier for a borrower to understand, the emphasis of this figure often results in the neglect of the total car cost, the interest rate, or the length of the loan.

A survey of over 600 auto loan borrowers suggests that this framing is partly responsible for the industry's increase in average loan terms – from 62 months in 2010 to 68 months in 2017.

3. **Borrowers are pushed to spend the maximum that they can possibly afford.** Financial institutions approve loans for "up to" a maximum amount. Auto dealers' commissions and incentive structures reward car sales. We haven't seen any model which provides incentives based on whether the borrower is able to pay back the loan.

Experiment

We are developing a prototype auto loan calculator that addresses these challenges by providing a recommendation for the price of a car that a borrower should buy in both total and monthly cost terms. To determine this figure, the calculator factors in the borrower's income and expenses as well as gas, insurance, maintenance and repair costs. It also factors in the borrower's income and expense volatility. This prototype will be released in Q1 2018.

Increasing Short-Term Savings

The benefits of short-term savings have been demonstrated repeatedly, and they range from allowing people to build more wealth to protecting against unexpected expenses, to helping smooth income volatility. However, despite of these benefits, research has shown that 46% of Americans could not cover a $400 emergency expense if they needed to.

To help households increase their short-term savings we worked on nine projects, partnering with seven different organizations. We launched six optimization experiments (with one more set to launch in Q1 2018), and two prototypes.

We focused our efforts across four areas:

1. **Tax Time Savings:** In 2016, 73% of tax filers received an average tax return of $2,857. This can often be the largest single deposit many receive all year. Thus, it's a great time to help people increase their short-term savings. We ran two experiments with Ariva, a free tax preparation site in the Bronx focused on helping people save part of their tax refund. While our interventions increased saving intentions and the number of people who split their tax refund by filing Form 8888, overall usage of the Form 8888 is very low (<2%). These experiments highlight the fact that we need other measures of tax time savings outside of the Form 8888.

Overall usage of the Form 8888 is very low (<2%)

We also worked with Payable, a payments company for independent contractors, to help independent contractors save for their pending tax bill. In our experiment, we were able to increase interest in the tax savings wallet by highlighting the wallet's automated features.

we found that we could increase round-up rates from **26%** to **38%** by highlighting the savings

2. **Rounding Up Debt Payments to Savings:** Building on our past work which encouraged borrowers to round up their debt payments to expedite debt repayment, we postulated that we could encourage borrowers to round up their debt payments to increase their savings. We ran two experiments testing this concept, with Latino Community Credit Union (LCCU) and IH Mississippi Valley Credit Union (IHMVCU).

With LCCU, we found that we could increase round-up rates from 26% to 38% by highlighting the savings that a potential borrower would lose if they didn't round up. Our experiment with IHMVCU is still in the field.

3. **Making Saving Easier and More Appealing:** To make savings easier, we partnered with Duke Federal Credit Union to automatically open up rainy-day savings accounts for its new members. Unfortunately, having an open account did not increase savings balances. It's not enough to open the account; we have to help people find the extra money to actually save.

We also partnered with Community Empowerment Fund, an organization that provides a 10% savings match for its members. We are testing whether random rewards and "almost" near-wins in prize-linked savings accounts can improve long-term savings behavior.

Balancing the trade-off between automated finances and need for control

2017
Payable

Partner Type: Startup
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

According to the U.S. Government Accountability Office, 40% of American workers make a living as freelance workers, part-time workers, or self-employed independent contractors. These workers face many difficulties that the average W-2 worker does not.

A number of things change when you start filing taxes as a 1099-worker, including that you have to file taxes quarterly and personally save a portion of your income for taxes.

To help solve this problem, we partnered with Payable to help more 1099-workers enroll in tax savings “wallets.” Payable helps tens of thousands of contractors get paid faster and more efficiently by making invoicing, work-tracking, and onboarding simple.

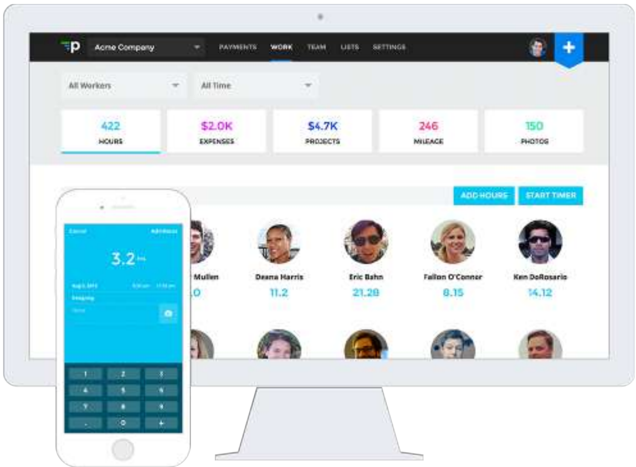
Behavioral Diagnosis and Key Insights

We recruited 330 Amazon Mechanical Turk workers who file as 1099-workers to take a survey about a hypothetical automatic tax savings product. In the survey, we asked people to rank in order a variety of concerns about such a product. We then had them rate their level of concern about each option.

Our survey suggested that 1099 workers are concerned about three major features of an automatic tax savings wallet

Our survey suggested that 1099 workers are concerned about three major features of an automatic tax savings wallet: lack of immediate access to their money, concern about not having enough money left in their account after a transfer is made, and trust in the institution to get everything right.

The survey indicated that there was a mismatch between what behavioral science would suggest is the most effective method to get users to save, and what users actually want in a savings wallet.



A one-time setup of an automatic tax savings mechanism (replicating something similar to what W-2 workers currently have) would be preferable due to its ease of use.

However, our survey indicated that what users wanted was a high level of control over when money was transferred and uninterrupted access to their money.

Therefore, we hypothesized that highlighting the features of a tax savings wallet that emphasize both “control and access” would lead to more sign-ups than highlighting features that make tax savings “automatic and easy.”

Experiment

To test this idea, we ran a simple two-condition email experiment with Payable. Our experiment benefited from Payable's incredibly high email open rates of around 84% (Perhaps unsurprisingly, independent contractors open emails that contain information about their paycheck). We sent our emails to 7,190 active Payable users.

All of the emails were identical except for one line which highlighted the features of the tax savings wallet. In half of the emails, we highlighted automation and ease of use by describing the wallet as able to "automatically save the right amount." The other half of the emails described the tax savings wallet in term of accessibility and control. It told users they could "approve transfers, and withdraw anytime."

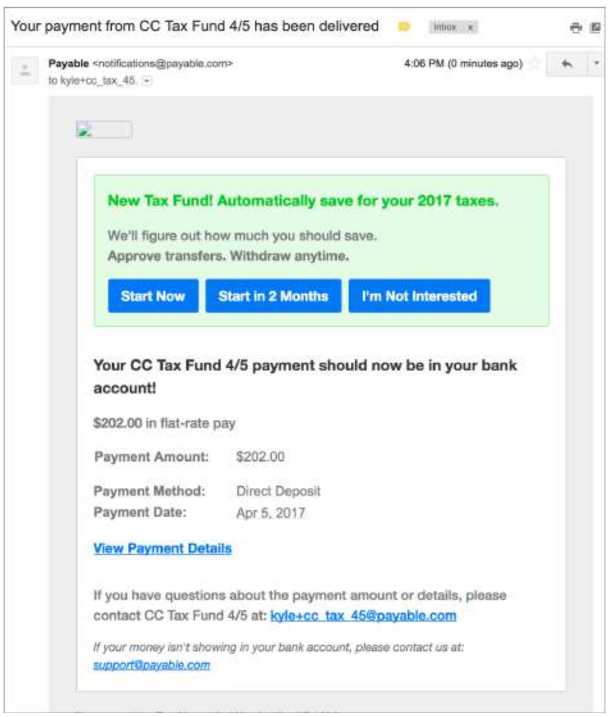
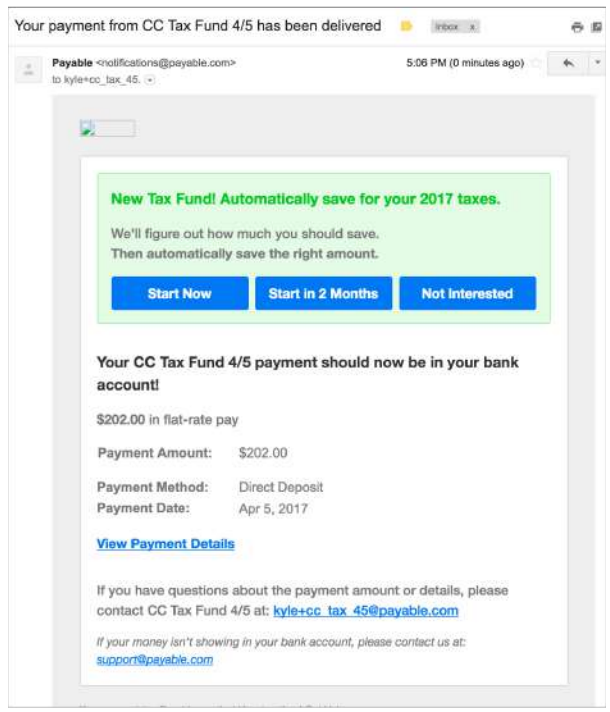
Control Condition	Experimental Condition
	

Figure 39: Emails by condition

Results

The results from our field experiment suggest that people may express concern about issues of control and access, but when it comes to actually signing up, they prefer ease and automaticity.

The emails that focused on ease and automation significantly outperformed the access and control emails. Of the people who opened the email, 15.7% of Payable users in the automation email indicated they were interested in signing up either right now or in two months.

Of the users who saw the access and control condition, 12.7% indicated that they were interested now or in the following two months. This effect was largely driven by those who click “start now” – with 12.6% of users who opened the automation email indicating they wanted to “start now” vs. 10.6% in the access and control emails, a 19.8% increase.

Stressing automatic features increased interest in tax savings wallet by 24% from 12.7% to 15.7%

This result suggests that 1099 contractors may not be very different from W-2 workers. Everyone appreciates making tax preparation easier and more automatic.

Experiment Results

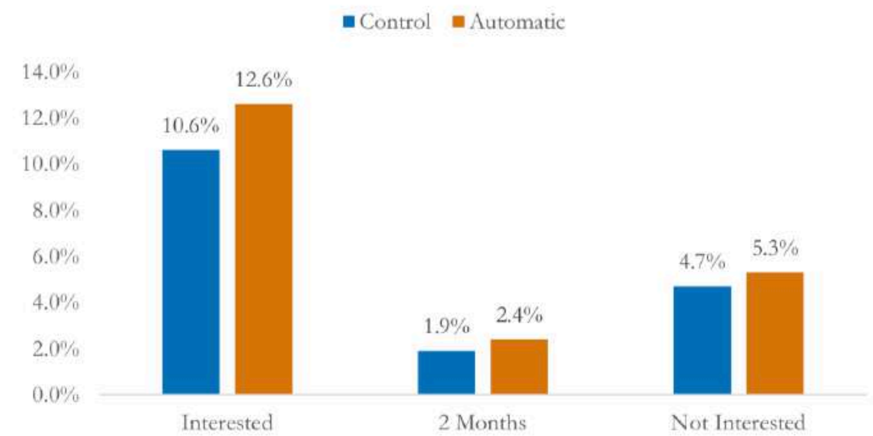


Figure 40: Click-through rates per condition

Impact

Shortly after our experiment was rolled out, Payable was acquired. The rollout of Payable's tax savings wallet is now under consideration by the acquirer.

Getting people to save something from their tax refund, the largest check they get all year

2017
Ariva

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

Tax-filing season can be a time of great stress, but it can also be one of the best opportunities all year for individuals to build up their short-term savings. In 2016, 73% of tax filers received a tax refund, averaging $2,857. This can often be the largest single deposit many receive all year.

In 2006, the IRS introduced the Form 8888, which enables tax filers to easily split their tax refund into multiple accounts (up to three), thus making it possible for recipients to directly set aside a portion of their refund into a savings account.

Through the Robin Hood Foundation, we partnered with Ariva to run a field experiment testing different interventions, with the goal of increasing savings rates through Form 8888 and increasing attendance at a tax preparation site.

Ariva operates nine tax sites in the Bronx and one tax site in Manhattan, serving over 10,000 tax filers each year. Their main location is in the Highbridge area of the Bronx and serves over 4,000 tax filers each year. Over 40% of the Highbridge residents live below the poverty line.

Ariva operates 9 tax sites in Bronx serving 10,000 tax fillers each year.

Behavioral Diagnosis and Key Insights

To understand the environment where filers are taking actions, we initiated site visits before tax season began. We conducted two full days of observation, along with ten hours of qualitative interviews with key staff members, preparers, greeters, and other volunteers.

Consolidating themes from the conversations led to these key insights on the tax preparation process:

1. **There was a limited mention of saving.** Although Ariva played a video in their waiting room subtly highlighting the Form 8888 and the importance of saving, few greeters, intake persons, or preparers actively discussed saving or the Form 8888 with the client. In addition, none of the forms explicitly asked filers if they wanted to save, and if so, how much they wanted to save.

2. **Their base of volunteers is inconsistent (seasonal worker problems).** Since most preparers at a VITA site are seasonal volunteers, consistency with some processes such as where to place the deposit form, how to introduce the Form 8888, and how to assist clients in opening savings accounts can be difficult.

Experiment

Given these barriers, we focused our two experiments on deliberately asking the clients to make an active choice about how much they wanted to save out of their tax refund.

For the first experiment we added environmental cues to the filing experience, to test if making savings more salient could encourage usage of the Form 8888. We named this experiment the "Environmental Cues Experiment." We created two conditions. In the experimental condition, Ariva employees would:

1. **Hand out "checklist"** flyers outlining each required item, including a savings account routing and checking account number.
2. **Put up "desk tents"** on each of the preparer's desks, reminding filers to save part of their taxes and reminding preparers to ask clients to save part of their taxes through the Form 8888.

Experimental Condition

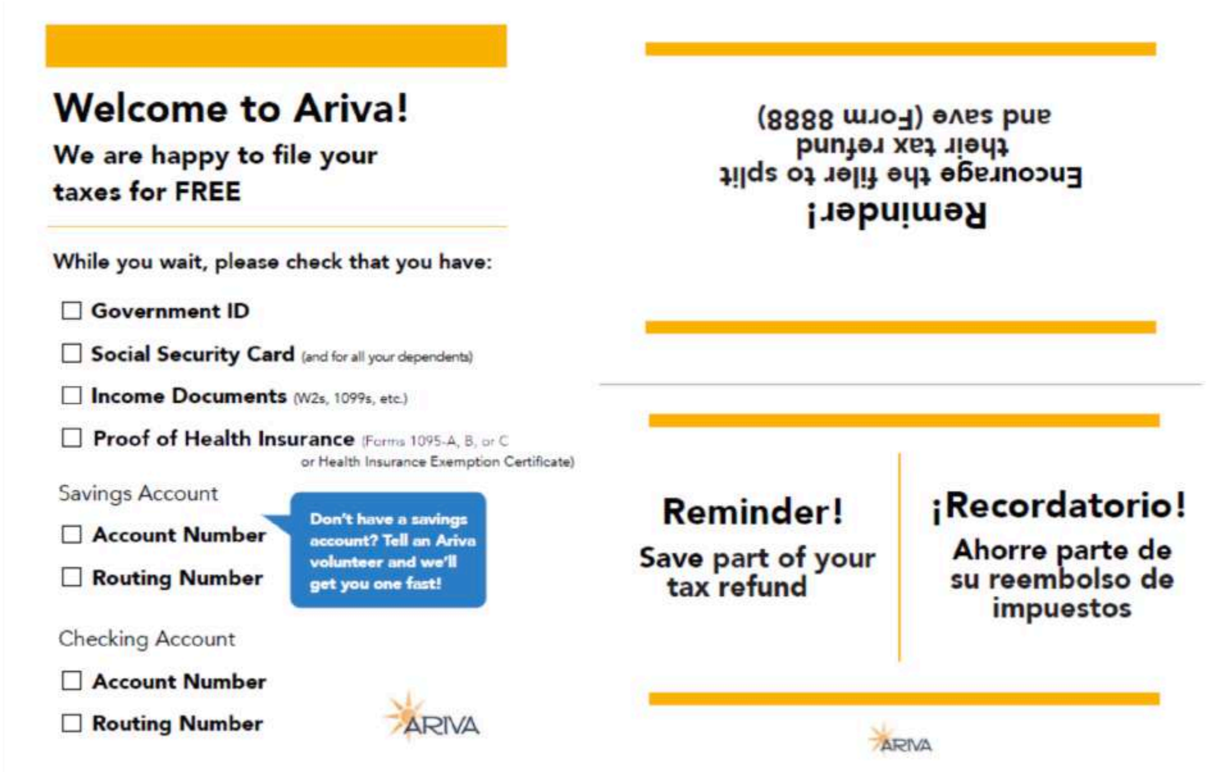


Figure 41: Checklists and desk tents

Those in the control condition experienced the pre-existing Ariva experience, without checklists or desk tents.

Our second experiment, our "Deposit Form Experiment" focused on modifying the existing direct deposit form to increase savings. We were interested in testing how recommendations, social proof and nudge disclosures would influence decision-making about the amounts someone plans to save. We changed the deposit form, asking filers to select, from a list of checkboxes, what percentage of their refund they wanted to save (0%, 10%, 20%, 25% 30%, 40%). In total, we had six conditions:

Sample Experimental Condition

Most people save part of their tax refund. You should too.

Plus, if you save part of your tax refund today, you can win up to $100 this week!

Don't miss out on this opportunity.

To help your tax preparer, fill out your bank account information:

If you get a tax refund, what percentage of your tax refund would you like to save? Please check only one box.

- ☐ 40%
- ☐ 30%
- ☐ 25%
- ☐ 20%
- ☐ 10%
- ☐ 0% [highly NOT recommended]

SAVINGS ACCOUNT

Name of the bank: ______

Account Number: ______

Routing Number: ______

Authorized Signature: ______ Date: ______

Authorized Signature (joint): ______ Date: ______

CHECKING ACCOUNT

Name of the bank: ______

Account Number: ______

Routing Number: ______

Authorized Signature: ______ Date: ______

Authorized Signature (joint): ______ Date: ______

Figure 42: 0% Highly not recommended condition

1. Pre-existing Ariva forms from 2016
2. Deposit form with check boxes only (our control)

3. Deposit form with check boxes and 0% noted as "highly not recommended"
4. Deposit form with check boxes and 40% noted as "highly recommended"
5. Deposit form with check boxes and 25% noted as "most people check this option"
6. Deposit form with check boxes and 25% noted as "most people check this option" and a nudge disclosure explaining to clients that their form was behaviorally designed to help them save

Results

We first analyzed the results for our "Environmental Cues" experiment. At the end of the tax season, 54 out of 3,702 (1.46%) tax filers split part of their tax refund through the Form 8888.

Our environmental cues had a marginally statistical significant effect (p=.076), increasing split rates by 26% from 1.3% in the control condition to 1.6% in the environmental cues condition. In other words, clients who came in on our "environment days" were 1.8 times more likely to split their tax refund than those who came in on our control days.

Our environmental cues had a marginally statistical significant effect (p=.076)

In general, split rates were low. And yet, in a pre-post analysis, we almost doubled Ariva's split rates year over year from 0.75% in 2015 to 1.46% in 2016 (p<.001). These experiments highlight just how difficult it is to get tax filers to use the Form 8888. One large hurdle we found was that many of the preparers didn't know about the Form 8888 and if they did, they were hesitant to add another step in the process. We then analyzed the results for our "Deposit Form Experiment." Unfortunately, we lost a number of deposit forms in the collection process and were not able to detect differences in actual split rates by condition. However, we were able to detect strong differences in behavioral intentions and what filers reported to wanting to save.

We collected 2,456 deposit forms. Roughly 45% of these forms were left blank. Of the forms that were answered, 24% wanted to save part of their tax refund.
Our analysis showed that compared to the control (our checkboxes-only condition), all of our experimental conditions moved behavioral intentions towards the implicitly recommended option.

- In our “0% not recommended” condition 71% of filers checked 0% (vs. versus 78% in the control (p=.063).
- In our “40% highly recommended” condition 9% of filers checked 40% versus 5% in the control (p=.042).
- In our “25% most people clicked this option” condition 9% of filers checked 25% versus 3% in the control (p=.001).
- In our “25% most people click this option + nudge disclosure” condition 7% of filers checked 25% versus 3% in the control (p=.015).
- Interestingly, there were no differences between the “25% most people clicked this option” conditions and “25% most people clicked this option + nudge disclosure” conditions.

We collected 2,456 deposit forms. Of the forms that were answered, 24% wanted to save part of their tax refund

Impact

We are working with New York City’s Department of Consumer Affairs (DCA) to share our learnings broadly to all VITA sites in New York City. We have two webinars scheduled to help VITA sites implement these tactics for the 2018 tax season.

Making “someday” come sooner: Saving while you pay off debt

2017
LLCU

Partner Type: CU
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

A commonly held belief is that people should first pay off all of their debts, and only then can they begin to build assets. However, over 80% of Americans hold some form of debt, so if everyone prioritizes paying down debt before building assets, savings may be placed on hold for a very long time, if not indefinitely.

To help families build their short-term savings, we partnered with the Latino Community Credit Union, a North Carolina-based credit union with a mission to serve unbanked individuals and immigrant communities.

Behavioral Diagnosis and Key Insights

In 2016, we ran an experiment with EarnUp showing that homeowners were more likely to overpay on their mortgages if we asked them to “round up” their payment. This is because we are naturally attracted to round numbers.

We built on this work and asked ourselves if we could use a similar approach to get members to build up savings as they pay down their debt.

Experiment

Working with a few LCCU branches, we defaulted all members coming in for a personal or auto loan into a loan savings program.

After calculating the standard monthly payment amount from the loan principal, loan officers rounded up the monthly payment amount to the nearest $25 (for personal loans) or $50 (for auto loans). The total amount was withdrawn all at once from the member's bank account, but then was split on the back end. The original monthly payment was moved to repay the loan, while the additional round-up amount was moved to a savings account. All borrowers were defaulted into the program. However, they could easily choose to opt out of the loan savings program.

We designed a two-condition experiment to reduce the number of members opting out of the loan-savings program. The form they were provided varied by condition:

1. **Control:** A simple check box allowing them to opt out of the program ("I don't want to save as I pay off my loan").
2. **Loss aversion:** The opt-out message included the total amount they would save by the end of the loan period, indicating how much money they are sacrificing by opting out ("I don't want to have $[640] in savings by the end of my loan payment period").

Control Conditions

Application ID: 1234567

Car Loan Payment Schedule

Member's Name: Mauricio Hernández

Transfer Amounts		
Monthly Transfer Amount:	$	150.00
Loan Principal & Interest	$	123.15
✦ Savings	$	26.85

☐ I don't want to save as I pay off my loan

1st Payment Date: 1-Marzo-2017

Number of Occurrences: 6

Initials

Experimental Conditions

Application ID: 1234567

Car Loan Payment Schedule

Member's Name: Mauricio Hernández

Transfer Amounts		
Monthly Transfer Amount:	$	150.00
Loan Principal & Interest	$	123.15
✦ Savings	$	26.85

☐ I don't want to have $640 in savings by end of my loan payment period

1st Payment Date: 1-Marzo-2017

Number of Occurrences: 6

Initials

Figure 43: Opt-out message by condition

Results

During the course of the experiment, 220 members came in to take out a loan at one of the participating branches. While 26% of those in the control condition remained in the loan savings program, 38% of those in the loss aversion condition remained in the program. The results from the experiment were marginally significant (p = .056). By the end of the loan, members participating in the loan savings program will have saved $1,032 on average.

Experiment Results

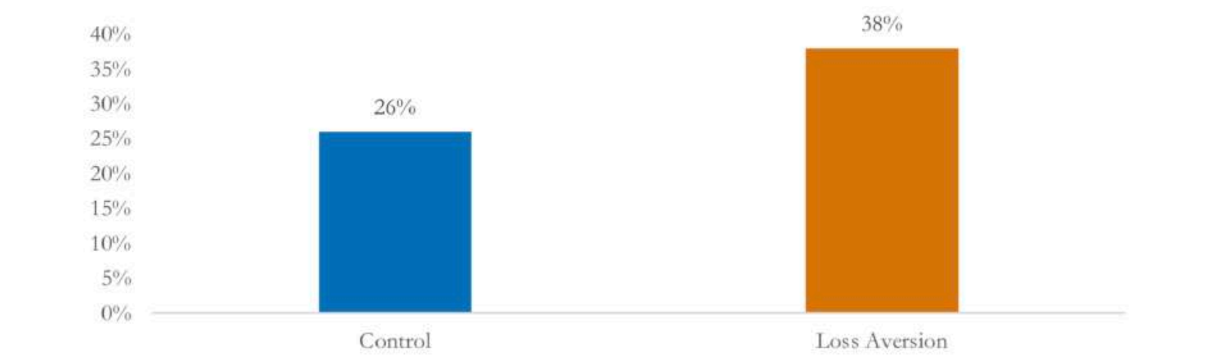


Figure 44: Enrollment rates per condition

Impact

LCCU is currently in the process of rolling out the loan savings program to their other branches, with the loss aversion language used across the board. We anticipate that, on average, for every year that LCCU runs the loan-savings program, members will end up saving an additional $1.56 million.

Enrollment rates in "round up savings" program increased from 28% to 36% by highlighting the "loss" of not having savings at the end of the loan

Simplifying enrollment in a round-up vehicle loan to build credit and savings

2017
IH Mississippi Valley Credit Union

Partner Type: CU
Project Type: Optimization

Partner Cohort: 2016
Project Status: In Field

Accessible credit is essential for many reasons in today's marketplace. For one, having access to credit makes it easier to purchase a car, which greatly facilitates employment, job retention, and overall earnings – especially among low-income households.

However, individuals who have poor credit pay higher prices for their vehicles, or worse, they are denied access at all. FICO recently estimated that 20% of individuals with a credit score still face the added costs of poor credit. Furthermore, this excludes the nearly 20 million Americans that the Consumer Financial Protection Bureau estimates live without a credit score.

FICO recently estimated that **20%** of individuals with a credit score still face the added costs of poor credit

Such a substantial proportion of the population would greatly benefit from interventions to establish or rebuild credit, but doing so takes time and resources. While many financial institutions offer credit building products such as secured credit cards or loans, uptake of such products is low because potential beneficiaries struggle to put aside enough savings for the down payment. Therefore, finding ways to rebuild credit may be beyond someone's reach if they work a low-wage job or struggle to make ends meet.

To help address this problem, we partnered with IH Mississippi Valley Credit Union (IHMVCU), a credit union serving a large population of low- to moderate-income earning families in Iowa and Illinois. Through their Reliable Rides program, IHMVCU is able to connect sub-prime, indirect borrowers with credit. Since the program targets sub-prime borrowers, Reliable Rides offers an opportunity to tailor interventions that could help this specific population to build savings and to take steps towards rebuilding their credit.

Behavioral Diagnosis and Key Insights

In order to better understand the experiences of Reliable Rides members, we interviewed five loan recipients, as well as two staff members at a car dealership, where most of the loans are initially offered. We rounded out the qualitative work with interviews of credit union staff.

We built on this information by reviewing academic literature, creating a behavior map, and analyzing transactional data from IHMVCU. From these data sources, we identified three key insights:

1. **Reliable Rides members treat savings as "what's left over,"** meaning they feel like any savings they put aside for the future comes at the expense of current consumption.

2. **Many Reliable Rides members overpay on their car payment as a way to pay off the loan faster.** This overpayment is likely misplaced – the amounts they overpay are too small to significantly shorten their loans. Furthermore, overpaying draws from funds that could be potential savings.

3. **Most Reliable Rides members know they have poor credit histories and many already value their auto loan as a step towards rebuilding their credit**.

Experiment

Based on these key insights, we helped IHMVCU to design a new program called Stepping Stones Savings (S3). The S3 program is designed to encourage Reliable Rides members to redirect a behavior many already engage in – overpaying on their loans – towards building their credit and short-term savings.

Overview of S3 Program

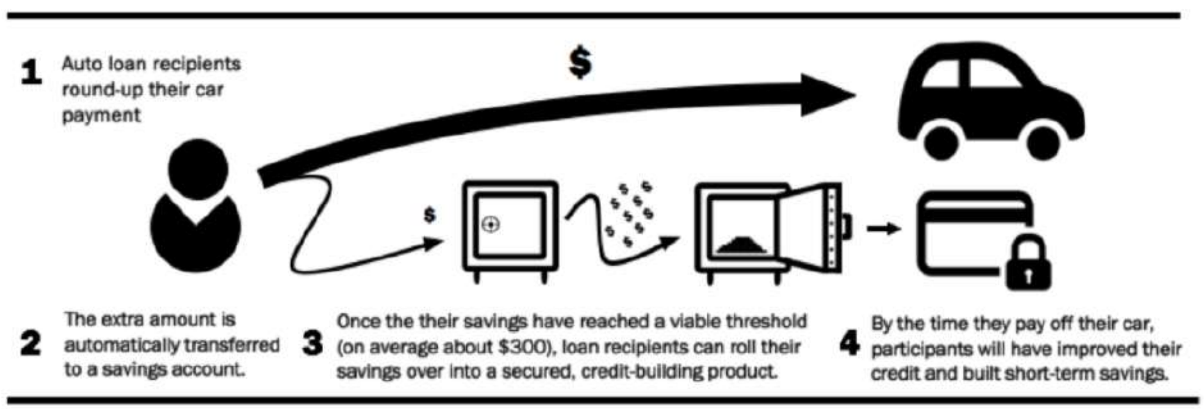


Figure 45: Overview of S3 Program

We designed a randomized controlled trial which varied the type and degree of outreach. All new loan recipients were randomly assigned to one of three conditions.

Control	Welcome Letter	Welcome Letter + Phone Call
No action outside the scope of normal business is taken with eligible auto loan recipients.	Auto loan recipients are sent a welcome letter detailing the savings and credit-building program.	Auto loan recipients are sent the same welcome letter and receive a personalized phone call from IHMVCU staff.

Figure 46: Summary of conditions

We hope this experiment can help us answer two key questions:

1. To what extent are payment-based savings programs able to increase access to credit-building products?
2. Is there existing demand for payment-based savings programs and does connecting such programs to salient goals (i.e. credit building) change demand?

Results

The experiment launched in October 2017. To date, we have seen enrollment rates of 3% and 6% between the two treatment groups, respectively.

In addition to uptake of the product, we are tracking the total amounts saved by all participants. We are measuring performance on the auto loans to see if connecting the loan to credit building improves repayment. We are also conducting soft credit pulls every three months for the first year and every six months afterwards to track how the program affects participants' credit scores.

Increasing saliency and mental accounting by auto-opening Rainy Day Savings Accounts

2017
Duke Federal Credit Union

Partner Type: CU
Project Type: Optimization

Partner Cohort: 2016
Project Status: Completed

Low-income households could only cover expenses for an average of six days if they lost their source of income. This lack of short-term savings threatens a family's ability to handle economic shocks such as unemployment, an unexpected car repair, or a medical bill. There is an acute need to increase emergency savings in the United States.

Prior behavioral research has shown that changing the default from opting in (to contributing to an account) to opting out can increase uptake as much as 50 percentage points – for 401(k)s, only 40% enrolled when it was opt-in but 90% enrolled when it was opt-out. In addition, creating a mental account for emergency savings by labeling accounts was shown to increase total deposits in Ghana by 31.2% after nine months.

We partnered with the Duke Federal Credit Union (Duke Federal), a not-for-profit financial cooperative serving just over 15,500 members of the Duke University community, to explore how the creation of a mental account specifically targeted for "rainy days" might increase motivation to save funds in that account.

Behavioral Diagnosis and Key Insights

Like most credit unions, Duke Federal offers a typical suite of financial products, including checking and savings account, home and auto loans, and long-term savings products, such as IRAs. However, the median amount saved among all members is just $25. If we exclude people who have a balance of $0, it only jumps up to $140.

In designing this experiment, we kept in mind three key insights to inform our design:

1. **People already use natural mental buckets** to decide how they spend or save their money, but those mental buckets don't always align with their current accounts.
2. **There is no default for saving;** all related decisions are driven entirely by the individual. What accounts should I set up? What should I call them? How much and how often should I deposit into them?.
3. **People are overly optimistic about their future financial situation** and often downplay the likelihood of emergencies, and certainly postpone preparing for one.

Experiment

We created a labeled savings account, called "Rainy Day Savings" to create and leverage a separate mental account for emergencies. Understanding the power of defaults, we designed a transparent default. Half of all new members were explicitly told that their new account came with a special, no-fee share account called a "Rainy Day Savings Account." They were told that they could close the account at any time at no penalty. This was the opt-out condition.

The other half continued with business as usual and could choose to open as many share accounts and name them whatever they wanted. This was the opt-in condition.

For members with the account, they would see the labeled savings account each time they received their statement or logged on to their online account.

There were no fees or other costs associated with the accounts, nor was there any additional pressure around deposits into the account. New members were randomized into the opt-in or opt-out conditions based on the last digit of their account number.

Results

The experiment was launched in early October 2016 and we collected data through October 2017. In the first few months of the experiment, we saw very high account closure rates among the opt-out condition. We attribute this to two factors:

1. **We launched our experiment around the same time as a large account opening scandal.** We suspect this made both members and member service representatives uncomfortable with auto-opening Rainy Day Savings Account.

2. **We believe that member service representatives were offering the account via active choice rather than via default** ("Would you like this account?" vs. "You have this account. You can close it whenever you want it.").

However, in subsequent months, we found a greater uptake of the account. Therefore, we limited our analysis to new members from January 2017 to October 2017.

During this timeframe, there were over 1,500 new accounts opened. Of those accounts, 750 were given the Rainy Day Savings sub-account and 50% kept the account open. Members in the opt-out condition were statistically more likely to have more than one savings account at the credit union.

We found no difference in savings behavior (balance, frequency or amount of deposits, frequency or amount of withdrawals) between the opt-in or opt-out conditions

Interestingly, we found no difference in savings behavior (balance, frequency or amount of deposits, frequency or amount of withdrawals) between the opt-in or opt-out conditions. If we only look at our treatment-on-the-treated (the group who was in the opt-out condition and kept the account), we see a slight increase in positive savings behavior when compared to the opt-in condition. However, we cannot determine if this is due to a higher saliency and more frequent reminders of the account, or if it is due to selection bias and that those who kept the account were more likely to be better savers anyway.

Leveraging the power of “almost:” Testing near-wins in prize-linked savings

2017
CEF

Partner Type: NPO

Project Type: Optimization

Partner Cohort: 2017

Project Status: In Build

Community Empowerment Fund (CEF) enables sustained transitions out of homelessness and poverty. CEF provides matched savings accounts, financial education, workforce development and relationship-based support to individuals experiencing or at risk of experiencing homelessness in Orange and Durham counties of North Carolina.

To help increase short-term savings, CEF provides matching savings accounts – Safe Savings Account (SSA). When members set up the Safe Savings account, they create a savings goal – a specific amount of money they want to save. CEF provides members with a 10% match when Clients reach their goal (a dollar amount) and when they complete eight financial coaching sessions.

While many CEF members create an account, 40% of them never actually make a deposit. Even for those who make an initial deposit, the probability of them making a tenth deposit decrease to less than 5%. We partnered with CEF to increase sustained savings among their members.

While many CEF members create an account, **40%** of them never actually make a deposit

Behavioral Diagnosis and Key Insights

Our behavioral diagnosis included a review of CEF account and member data, a review of the CEF online program delivery system and nine in-depth interviews with CEF staff, volunteers and community housing partners. Our behavioral diagnosis revealed the following key insights:

1. **Members anchor on the maximum match amount and set overly ambitious savings goals.** The Safe Savings Account offers a 10% match on up to $2,000 in savings. This means that, at most, members can get a match of $200. When the account is described, the $200 amount is often highlighted because it's the maximum amount and it's a concrete number (rather than a percentage).

   This leads some members to set savings goals that will take them a very long time to achieve.

2. **The benefit of the Safe Savings Program is far off in the future.** The idea of a match sounds appealing and probably creates some of the momentum for setting up the account and making the initial deposits. However, saving money takes time, and the reward for saving doesn't happen until the entire goal amount is saved.

Experiment

Based on the behavioral diagnosis, we designed an intervention that would:

1. Encourage early use and adoption of the Safe Savings Account
2. Bring the benefits of the account closer to the present
3. Encourage use across a time period when attrition is the most common

In order to do this, we created a virtual slot machine around deposit activity. For a six month test period, any time a member makes a deposit, they will have the opportunity to win a small amount of money that will be applied towards their goal (there are three possible slot machine outcomes). While the opportunity to “play” the slot machine is available to all members, we are particularly interested in learning if the possibility of short-term rewards will lead more members to start saving.

We will also be testing what combination of slot machine outcomes (win, no win, etc.) increase the likelihood of the member making a third deposit. Our hypothesis is that a member who doesn’t win on the first and second deposits is less likely to make a third deposit compared to members who experience any type of win (big or small) early on. We are curious to learn how the amount of the reward and the experience of a loss impact deposit activity.

For example, we are interested in seeing if a “near loss” (which still comes with a small reward) is more motivating than a big win, since the possibility of a larger reward in the future still exists.

This experiment is still in development. We expect to launch in Q1 2018.

Learnings from the Lab: Does progress-monitoring increase goal attainment under scarcity?

2017

Partner Type: --
Partner Cohort: --
Project Type: Lab Learning
Project Status: Completed

In an experiment last year with Community Empowerment Fund (CEF), we found that people experiencing homelessness were more likely to reach their savings goals when given a tangible punch card to track their deposits. To follow up on this experiment, we designed a lab study to test the mechanisms of this intervention so that we can optimize and scale it in other organizations.

We tested this intervention further because we have alternate hypotheses for why the punch card was so effective among people living in poverty. One possibility is that, in tracking deposits, people are able to look at their previous actions as a sign of their commitment to their savings goal, thus motivating continued behavior. An alternate possibility is that having a tangible card served purely as a reminder of the savings goal, making people more likely to come into the CEF office to make a deposit.

Experiment

We designed an experiment to test these hypotheses using a bowling task developed in the lab to track savings behavior. Participants are provided with bowling balls for the first half of the game, but must budget and save balls from the first half to be able to play the second half. Within this framework, we manipulated the following aspects of the game:

1. **Progress-monitoring:** Some people will receive indicators of how many balls they have already saved as a signal of their progress, while others will not.
2. **Goal reminders:** Some people will receive occasional reminders of their goal to save balls for future rounds of the game, while others will not.
3. **Scarcity mindset:** Some people will play the game with a timer of five seconds for each round to simulate a sense of scarcity.

By testing these three features, we will be able to assess why progress-monitoring interventions are effective, and whether conditions of economic scarcity influence the way they work to motivate goals. This experiment is set to launch in Q2 2018.

Increasing Long-Term Savings

The average American couple has only $5,000 saved for retirement, and only a third of working Americans are saving money in an employer-sponsored or tax-deferred retirement account. To make matters worse, of the lowest 10% of U.S. wage earners, only 34% had access to, and only 15% were participating in, employer sponsored retirement savings programs. These statistics indicate low-income individuals are having a particularly difficult time saving for retirement.

43% of parents have not started saving for their children's college

The situation is just as dire for other forms of long-term savings accounts. College tuition costs have risen by 100% since 2001. Yet, 43% of parents have not started saving for their children's college.

To help families increase their long-term savings we launched two experiments and one prototype focused on:

1. **Increasing retirement savings.** We partnered with Self-Help Credit Union to increase enrollment rates in Retirement Savings Accounts (RSAs) that serves as a substitute for traditional employer-based retirement plans. The RSA is funded using automatic contributions from checking deposits. We are testing the effect of different contribution amount anchors on enrollment rates and overall saving balances.

2. **Increasing college savings.** We ran a number of experiments in the lab and the field to try and increase college savings. We partnered with the City of St. Louis' Office of Financial Empowerment to increase contribution rates to college savings accounts. We found that when we send parents a contribution reminder letter via their children's backpack (vs. sending it in the mail), contributions rates increase from 0.76% to 1.45%.

When we send parents a contribution reminder letter via their children's backpack contributions rates increase from **0.76% to 1.45%**

We partnered with Promise Indiana, a youth development organization, to send parents postcards reminding them to contribute to their children's college savings account. None of our treatment conditions increased savings.

We also ran a series of lab studies testing the effects of time progression perceptions, perspective taking, and letter writing to increase savings.

Using defaults and anchors to help members start saving for retirement

2017
Self-Help Credit Union

Partner Type: CU
Project Type: Prototype

Partner Cohort: 2016
Project Status: Completed

In the United States, the lowest wage earners have limited access to retirement savings programs. According to the Bureau of Labor Statistics, of the lowest 10% of U.S. wage earners, only 34% had access to, and only 15% were participating in, employer sponsored retirement savings programs. These statistics indicate low-income individuals are having a particularly difficult time saving for retirement.

We partnered with Self-Help Credit Union (SHCU) to help its members that are not currently saving for retirement. SHCU is a financial service provider that is focused on community development and the improvement of the financial well-being of its members. Many SHCU members are not currently saving for retirement.

Self-Help FEDERAL CREDIT UNION
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Therefore, SHCU decided to create a new Retirement Savings Account (RSA) that serves as a substitute for traditional employer-based retirement plans. The RSA is funded using automatic contributions from checking deposits and contains a free $100 for all members who do not close the account or withdraw from it in the first year.

We partnered with SHCU to test the efficacy of the RSAs at a branch in Western North Carolina.

Behavioral Diagnosis and Key Insights

Qualitative and quantitative analyses represented the foundation for our behavioral diagnosis. We conducted a series of eight in-depth interviews with SHCU staff, members, and one non-member. Additionally, we consulted relevant academic literature on defaults and reviewed historical savings trends for SHCU members. Online surveys were also administered to measure preferences for product features such as product name, automatic contribution percentage, and withdrawal penalties. The behavioral diagnosis led to two key insights.

1. **Many members lack or have limited plans for retirement.** In our qualitative interviews, many members indicated that they suffered from a lack of planning or had no plans for retirement whatsoever. Members did not have specific retirement goals, and many were not currently saving for their retirement.

2. **Many members valued the ease and simplicity of automatic savings.** The members were in favor of making the retirement savings process as easy as possible. The RSA allows members to save for retirement without changing any of their financial habits. After the RSA is established, savings will accumulate effortlessly and without much thought.

Experiment

We designed a simple experiment to test which version of the RSA prototype would lead to the greatest uptake and retirement savings for SHCU members. Defaults have been researched extensively and their impact on behavior change has been replicated in many studies. Therefore, we decided to forgo a no-contact control and, instead, test two different types of defaults.

Participants were assigned to one of two conditions: simple default and defaults with anchors. Half of the participants were presented with the simple default condition: an automatic transfer rate of 3% was set (3% of all checking deposits was transferred to the participant's RSA).

The other half of participants were presented with the defaults with anchors condition: participants were offered automatic transfer rates of 10%, 6%, or 3%. In the defaults with anchors condition, participants were able to select their desired automatic transfer rate.

All study participants were not currently saving for retirement and had just opened a new checking account with SHCU.

Results

The RSA intervention was launched in June 2017 and data collection is ongoing. We are tracking two key measures: RSA uptake and total retirement savings.

To date, across both conditions, 38% of eligible SHCU members enrolled and 30% of eligible members have kept their RSAs active. Currently, RSA participants have saved a total of $11,439.03 or approximately $272.36 per member. Active RSA participants now have more retirement accounts (one) than half of all U.S. families in the South.

We will publish final results in Q2 2018.

Using postcard reminders to encourage families to save for their child's college education

2017
Promise Indiana

Partner Type: NPO
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

College costs are rising at an alarming rate. According to College Board, tuition at four-year public colleges has risen more than 100% since 2001. In the recent years, financial aid packages have not kept up with rising tuition costs.

With these rising costs, families need to start saving and planning for college as early as possible. One effective way to save for college is through 529 College Saving Plans. Under 529 College Saving Plans, earnings are not subject to federal taxes.

Sadly, only 16% of parents used savings from a 529 savings account to help pay for college, which suggests these accounts are highly underutilized. To help parents save for college, we partnered with Promise Indiana. Promise Indiana, an initiative of the Wabash County YMCA, partners with the Indiana Education Savings Authority to increase participation in the CollegeChoice 529 Direct Savings Plan (Indiana's 529). Since its inception in 2013, The Promise has expanded into 18 Indiana counties.

Only **16%** of parents use savings from a **529** savings account to help pay for college

Behavioral Diagnosis and Key Insights

Promise Indiana uses an "opt-in" registration model and seeks to increase children's savings account (CSA) engagement. Through our research with them, we have defined engagement as increasing program uptake (enrollment) and continued activity (deposits).

Our partnership began with an exploratory phase, which included an analysis of the existing program data and in-depth interviews with families, program coordinators, and partners from local government and financial institutions. Through this process, we identified two key barriers related to account engagement:

1. **The benefits of college are far in the future, so parents prioritize more concrete, present expenses.** When parents are first informed about their accounts, they are likely to assume that saving for college does not need to be a priority because the goal is both abstract and far off in the future.
2. **College is not a value or social norm for all families involved in the program.** In Indiana, less than 25% of adults have a bachelor's degree or higher. If parents were able to obtain employment and have stable lives without having completed higher education, they may not instill the value of going to college in their children. Parents may also be unfamiliar with the college process, or they may be concerned that they lack the sufficient means to help their children get there, regardless of when they start saving.

Experiment

We ran an experiment the effects of postcard reminders, and their psychological framing, on CSA deposit activity. A total of 3,886 Indiana residents from eight different counties were randomized into one of four treatment conditions:

1. No Postcard
2. Neutral Messaging: "Support your child by contributing to their CollegeChoice 529"
3. Social Norms Framed: "Join families in your neighborhood who have already started saving for their child's education."
4. Time Framing: "That was fast! Your child completed another year at school. Remember, next year will go by quickly too!"

Results

The postcards were mailed on July 2017. We were most interested in observing deposit activity for primary account holders. Specifically, we were interested in the effect the reminders had on deposit amounts (magnitude) and deposit rates (frequency). Further, we were interested to see if the type of language, and their psychological framing, would influence deposit behaviors.There were two key limitations to this study. First, there was an issue in the mail-merging process that led to more people being put in the control, no-postcard condition. Second, there was a printing error that caused the neutral messaging text to be printed on the front of all cards and the varying text to only be on the back of the postcards. Unfortunately, since the printers also mailed the postcard, this error was not observed until after rollout.

No significant differences in deposit activity were observed between the control (no postcard) and receiving any postcard. Overall, the postcards and their psychological frames had no discernible impact on college savings behavior.

While it cannot be wholly attributed to our intervention, a historical trend was observed such that Promise deposit activity was 2.2% greater in summer 2017 than it was in summer 2016.

No significant differences in deposit activity were observed between the control (no postcard) and receiving any postcard

Using messenger effects and time progression to encourage parents to save for college

2017
St. Louis OFE

Partner Type: Gov't
Project Type: Optimization

Partner Cohort: 2017
Project Status: Completed

According to Sallie Mae, 43% of parents have not started saving for their children's college.

Of those that are savings, the average savings account totals just $16,380. Sadly, the average tuition per year is $25,260 public four-year institution and $34,740 for a private four-year institution. Fidelity reports that although 70% of parents intend to cover the cost of tuition in full, they're only on track to fulfill 29% of that goal by the time their children reach freshman year.

We partnered with the City of St. Louis Treasurer's Office (St. Louis) to help families save for college. St. Louis developed a pioneering program to promote college savings and financial literacy for the city's schoolchildren and families through the "College Kids" children's savings account (CSA) program.

Behavioral Diagnosis and Key Insights

College Kids' purpose is to provide all children enrolled in St. Louis Public Schools and St. Louis City charter schools with an automatically-opened savings account for postsecondary education, thereby increasing the accessibility of postsecondary education for its residents. Since its launch in 2015, the program now serves over 10,000 students.

We worked with St. Louis to improve rates of parents both depositing into their account and returning their consent form for receiving attendance incentives. As the partnership has evolved, we have focused in particular on encouraging parents to set up recurring direct deposits.

Experiment 1: Testing Messenger Effects and Time Progression to Help Families Save for College with The St. Louis Office of Financial Empowerment

From our behavioral diagnosis, we chose to focus on helping families to 1) return their program consent forms to receive attendance incentives and 2) make deposits into their accounts. We tested the following behavioral principles and related questions with a sample of 6,265 families:

1. **Messenger effects:** Are parents more likely to make deposits when the program information is delivered to them by their children rather than through the mail?
2. **Time progression:** Are parents more likely to make deposits when they feel like college is approaching more quickly?

To test these questions, we created packets to send to families at the end of the school year. These packets included an end-of-year statement with their account balance, a call-to-action for their next step in the program, a consent form to return, and instructions for how to make deposits.

We created an experiment varying both how the parents received the packet, through the mail or from

Figure 47: Summary of conditions

Front-Page Visualization

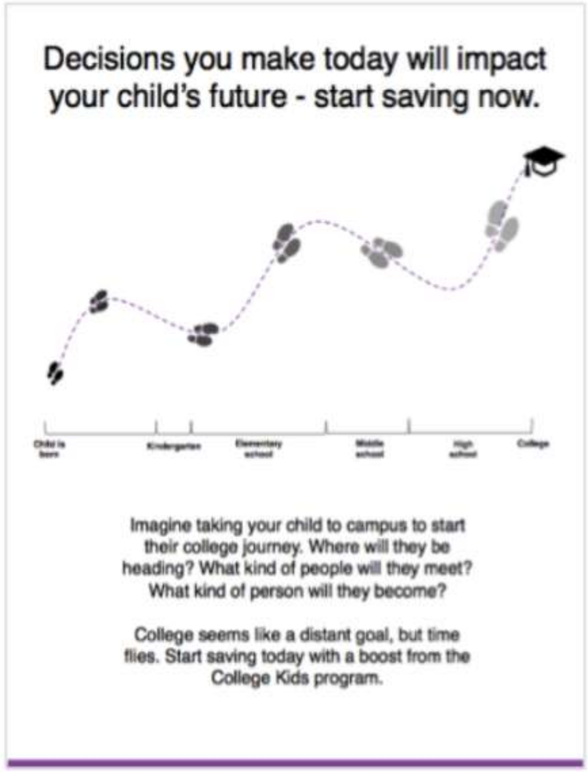

Figure 48: Front page visualization

their child's school backpack, and the presence or absence of a front page of the packet depicting a timeline between the present and college. The parents were randomly divided into one of the following four groups:

1. Received packets in the mail, no front page
2. Received packet in the mail, with front page
3. Received packet from child, no front page
4. Receive packet from child, with front page

We pre-tested these front-page visualizations and carried the highest-performing version into the field test. We also deliberately had a small group of parents that did not receive a packet so that we could compare overall effects of our intervention with the previous approach of not having an end-of-year touch point.

Results

We sent out 5,576 packets in April – with a control group of 689 people who received no packet – and collected data for the following two months.

> **Families who received their packet via their child's backpack, and who had a front page depicting the distance between the present and college, were more likely to make a deposit.**

During the intervention period, 154 families returned the consent forms that enabled them to receive attendance incentives, while 65 families made deposits into their accounts. Families who received a packet were more likely to return their forms and make deposits than those who did not receive a packet, with a 2.3% percentage point increase for consent forms and a 0.9% percentage point increase for deposits.

In our experimental conditions, we discovered that when packets were sent out through schools, rather than the mail, families were more likely to return their forms and make deposits. We also found that families were more likely to return their forms when they did not receive the time progression front page, but were more likely to make deposits when they did receive the page.

We suspect that, when families did not receive a front page, the first item they saw was the call-to-action to return their consent form.

Experiment Results

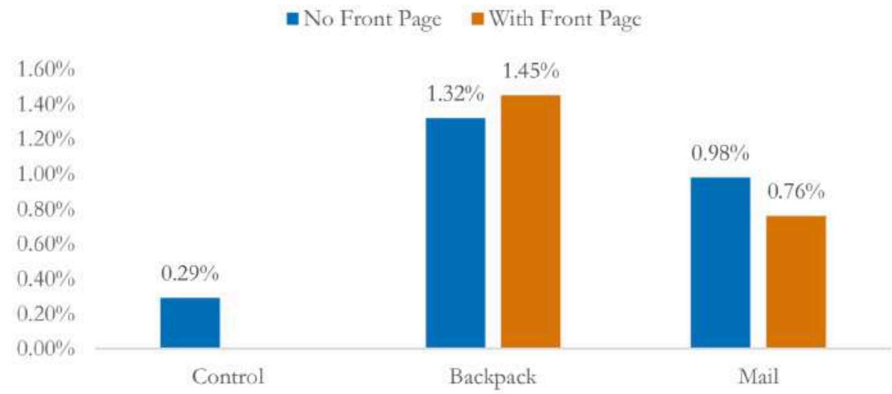

Figure 49: Deposit rates by condition

While the effects of this first experiment were small, we used these insights in order to continue developing interventions for the beginning of the following school year. In follow-up tests, we intend to focus on increasing sign-ups for direct deposit so that we can encourage longer-term engagement while also creating interventions that are higher-touch to increase overall participation rates.

Experiment 2: Using Messenger Effects and Time Progression to Increase College Savings Direct Deposits

Building on the end-of-year packet experiment and lab studies, we decided to further investigate messenger effects and time progression with an SMS-based experiment. SMS messages function as a more direct reminder to take action compared to paper packets that can be easily overlooked.

To expand our previous work on messenger effects, we framed text messages as if they were from different figures of authority: either the school principal (this varied by school) or the city treasurer (a well-known public figure). This issue of who should offer information about the program – the school or the city – is one that is ubiquitous across college savings programs, so testing this promises to offer scalable insights.

With these ideas in place, we designed a four-condition study– varying the messenger and the time progression. We also had a control condition which received no SMS message.

These messages were sent in combination with a start-of-year packet, a modified version of the one sent in April, to inform parents about the program. Note that everyone in the SMS conditions received two messages – one that arrived the same day as the packet and one that arrived a week later.

Experimental Conditions

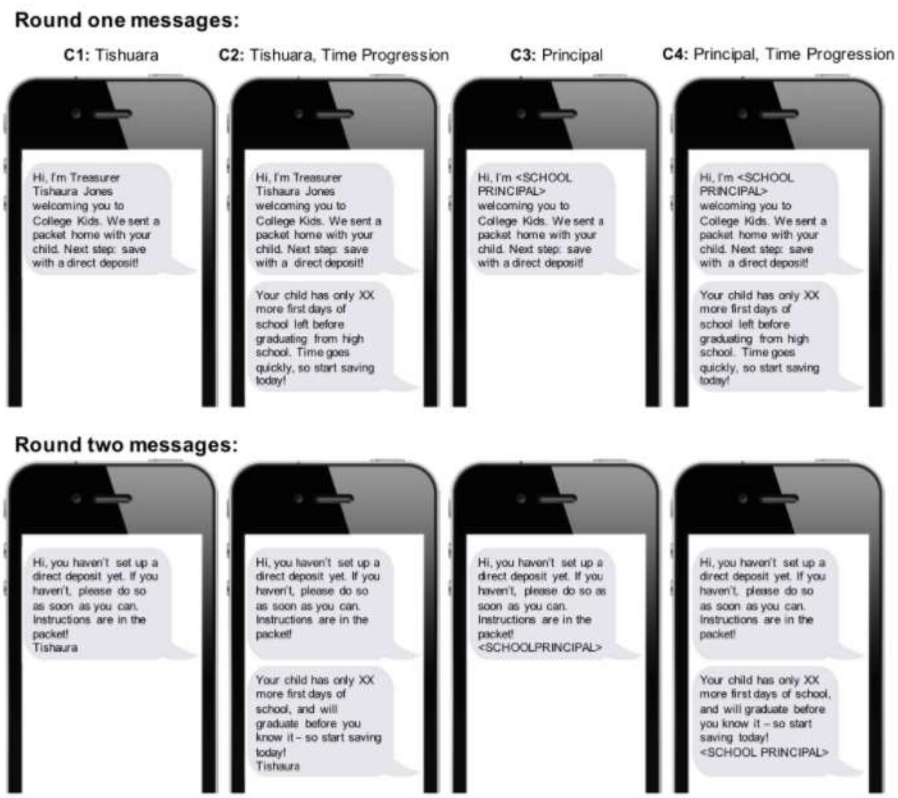

Figure 50: Sample text messages

Results

This experiment is still in the field. We hope to publish our results in Q1 2018.

Experiment 3: Using Pre-commitment to Encourage College Savings with St. Louis Office for Financial Empowerment

We are also conducting a third experiment, also during this start-of-year period, to investigate the effect of pre-commitment on college savings. From the insight that parents often struggle to save despite their desire, we added a section to the consent form enabling parents to pre-commit to saving for college in the future.

We are testing two conditions: (1) the full start-of-year packet and (2) the full start-of-year packet plus a checkbox in the consent form to indicate an interest in saving in the future. We expect this to be effective for two reasons: (1) because it enables us to send a follow-up in January reminding them of their pre-commitment, and (2) because this commitment may allow parents to signal to themselves that they want to start saving in the present.

Control Conditions	Experimental Conditions
Consent Form **Attendance Consent** ○ **Yes**, I want to share my information so my child can earn deposits for attendance ○ **No**, I do not want to share my information, and my child will not earn deposits for attendance **Your Information** **Student's Name:** ____ **Student's Date of Birth:** ____ **School Name:** ____ **Cell Phone Number:** ____ **Parent/Guardian Name:** ____ **Email Address:** ____ **Parent/Guardian Signature:** ____ **Today's Date:** ____	**Consent Form** **Attendance Consent** ○ **Yes**, I want to share my information so my child can earn deposits for attendance ○ **No**, I do not want to share my information, and my child will not earn deposits for attendance **Save Tomorrow** ○ **Yes**, I want to save for my child to go to college. Remind me soon! ○ **No**, I do not want to save for my child's future. **Your Information** **Student's Name:** ____ **Student's Date of Birth:** ____ **School Name:** ____ **Cell Phone Number:** ____ **Parent/Guardian Name:** ____ **Email Address:** ____ **Parent/Guardian Signature:** ____ **Today's Date:** ____

Figure 51: Sample text messages

Learnings from the Lab: Using time progression, perspective taking, and letter writing to increase savings

2017

Partner Type: --
Project Type: Lab Learnings

Partner Cohort: --
Project Status: Completed

Partnering with academic collaborators from Harvard and UCLA, we ran a series of lab studies to increase willingness to save. The lessons from these studies have directly impacted the design of the college savings field experiments with both Promise Indiana and St. Louis.

Experiment 1

One of the main barriers preventing parents from saving is a sense that college is far away. So we sought to develop mechanisms to encourage people to perceive college as closer in time.

To test this idea, we used a time-lapse video showing a person growing up from early childhood to high school. We compared this video to a condition where people were shown no video, and also to two conditions that either sped up or slowed down the video. You can watch the video here.

Results

All video conditions led to a significant increase in the perception of time moving. Similarly, all conditions led people to report thinking college was closer than the no-video condition. From these results, we can conclude that showing people a time-lapse of a child growing up increased the speed at which people saw time as moving. However, we did not see any significant differences between the video conditions. This suggests that speeding or slowing the video did not affect perceptions of time movement.

Experiment 2

Next, we investigated whether mental visualization would influence people's perceptions of how quickly time was passing. We tested four visualization conditions and asked people to focus on the past, present, or future.

Results

Relative to the control, none of the visualization conditions led to a significant increase in perception of time movement. Looking toward the past made people think college was further away, relative to the control. There were no differences between the visualization conditions, suggesting that, overall, mental visualization did not work.

Experiment 3

We then investigated whether asking people to write a letter to their child in the future would affect their willingness to save. We tested different letter conditions, including giving it to their child in a month or at graduation, and asking people to include vivid descriptions of the future or to set plans for helping their child get to college.

Experimental Conditions

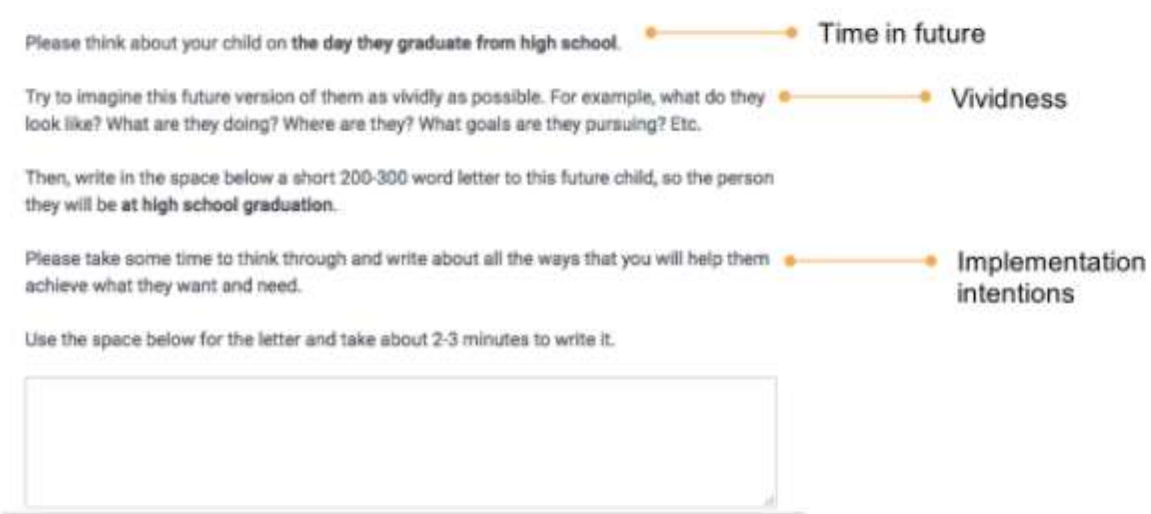

Figure 53: Sample letter writing task

Results

Overall, these interventions had very little impact. However, we did see that, relative to vividness alone, asking people to think vividly about their child in the future – and then think through ways to help their child – led participants to allocate significantly more money to college savings in a budgeting task. All of this suggests that we still have much to learn about how to make the future feel more concrete and immediate.

Dissemination of Research

A core part of our mission is to disseminate our research broadly to help practitioners apply our insights to their own work. To accomplish this goal, we:

- **Hosted two conferences**, gathering 106 industry experts from 51 financial organizations, including fin-tech companies, credit unions and nonprofits.
- **Held four online webinars and five in-person summer series,** each one targeting specific industry practitioners, including credit unions, tax time practitioners, cities, and tech companies.
- **Hosted sixteen 60-minute office hours** with prominent fin-tech companies to quickly diagnose how each organization could improve their offering and the overall experience for their LMI users.
- **Published six press releases**, **27 mentions in media coverage, and 11 bylines, for a total of 44 press activities.** These articles accounted for 15,857 shares combined on social media platforms.

6 press releases.
27 mentions in media.
11 bylines.

- **Authored nine** blog articles on the Advanced Hindsight Blog. Traffic to the blog comes from social media and an email list which boasts 4,400 subscribers, double compared to last year. Emails have a 30% open rate and 6% click rate, which is substantially higher than industry averages.
- **Featured in 32 high-impact conferences and events**, reaching roughly 3,000 practitioners. These events included full-day and half-day workshops (Western Re Engagement Convening, Boston Fed CSA Consortium), specialized audiences (Emerge, Napa 401k summit), industry expert audiences (SEC, Money2020, NASDAQ) and academic platforms (BSPA, Colorado Financial Summit).

Lastly, many of our 2016 case studies are being used to teach MBAs about financial inclusion at Stanford's Graduate School of Business and Harvard Business School.

Conferences

Like last year, we held two main conferences this year. Together, these conferences reached 51 organizations and 106 practitioners.

Conference for financial technology companies

The first one was the Behavioral Design Immersion Conference held in San Francisco, California on March 10-12, 2017. This conference was geared towards fin-tech companies across the United States. We selected 23 companies (60 individuals) whose work positively impacts LMI individuals in the United States.

Each company was instructed to send 3-4 representatives that are key decision-makers and have the capacity to enact change in their organizations. Our format was similar to last year's recipe, but with a stronger focus on solution design throughout the two-day workshop. The first day of the conference was focused on learning, with interactive sessions around behavioral economics findings that impact financial behavior. The second day was spent guiding attendees through a process of applying behavioral economics principles to their products.

Our Net Promoter score average was a very high 9 out of 10.

Here is what people said after the conference:

- "Thrilled to have been selected to participate in this game-changing workshop! - Silvernest" *- Metlife Representative*

- "The conference was a unique opportunity to learn from real experts in the field, and work hand-to-hand with them to apply the learnings on my product. All perfectly packed in a single weekend!" *- Olivia*

- “Spending the entire weekend participating in this full-immersion behavioral workshop with smart, creative people passionate about helping others was the most humbling and soul-gratifying experience I've had in decades. I learned about behavioral principles, made great connections with peers in numerous industries across this nation, and learned a little bit about myself too. A weekend I will remember for a long time. Thank you so much.” *- Cal EITC*

Conference for credit unions and nonprofit organizations

The second conference was Designing Environments for Financial Well-Being held in Durham, North Carolina on October 4-6, 2017. This workshop was intended for Common Cents partners and other leading financial service providers. Forty-six individuals from 28 organizations attended.

We collaborated in teams to rapidly generate concepts, prototypes, and iterate creative solutions to help their customers and members improve financial health. Throughout the workshop, attendees were given time to develop their own ideas and to discuss ideas with their fellow organization representatives as to how they planned on implementing their learnings. This year we added a session to facilitate our current partners’ dissemination of best practices and learnings to other organizations and potential 2018 partners.

In the feedback survey, 94.4% of participants said they “strongly agreed” that they wanted to continue working with Common Cents Lab. And we received a 4.8/5 score on whether they would recommend this conference to their colleagues in the field.

Here’s what people said after the conference:

- “This was a wonderful two days; the people were all fantastic. Thank you to the team for all your hard work. I am leaving very inspired and motivated!”

- “Very inspiring week. Time well spent.”

- “[I was surprised by] how much I learned and created in a short amount of time [and] how useless better information is.”

- [The most valuable part was] the interaction with the Common Cents group and gaining a better understanding of behavioral economics, how to frame potential experiments, as well as how we can use these to view our current measured metrics through a different lens, or clean more from the data. Of course, it was incredibly inspiring to see what other partners were working on as well."

Webinars and Summer Series

To share our work, we held four webinars in 2017, each one targeting specific industry practitioners including credit unions, tax time practitioners, cities, and tech companies.

We also held five small scale conferences in San Francisco through our "Summer Series" program. We estimate that over 250 technology experts (founders, product managers, designers), attended our Summer Series.

Webinars

- **Digital Insight Webinar:** Digital insight is a front-end technology layer on top of credit unions. We presented four of our 2016 studies to 15 of their credit unions. Our aim was to explain the studies and recruit innovative credit unions who would be able to replicate and scale the intervention.
- **National League of Cities:** We shared our approach to behavior-change, as well as key findings and behavioral principles related to uptake, participation, and support for city-led child savings programs to the National League of Cities' CSA learning cluster.

- **Prosperity Now:** We presented our tax time interventions to Prosperity Now's audience of practitioners. The aim of the webinar was to summarize our 2017 tax time savings work on increasing Vita site visits and encouraging tax time savings.
- **Income Framing Webinar:** We presented our 2016 work with Payable on increasing retirement savings by re-framing wages. We covered the preceding lab work and the applied experiment.

Content

In 2017, we invested much more in content creation and content promotion and brought on expert PR team Cosmo, led by Michael Azzano. With Common Cents and Cosmo's combined effort, over the year we had an impressive six press releases, 27 mentions in media coverage and 11 bylines, for a total of 44 press activities. These articles accounted for 15,857 shares on social media sites. Our work was featured in top publications including Bloomberg, Wall Street Journal, Next Billion, Stanford Innovation Review, Techcrunch and many more.

In addition, we published nine blog articles on the Advanced Hindsight Blog focused on financial health. Traffic to the blog comes from our Common Cents and the Center for Advanced Hindsight's social media accounts and a growing email list. The email list now boasts 4,400 subscribers, double from last year. Emails have a 30% open rate and 6% click rate, which is substantially higher than industry averages.

Press Releases

- 2016 Annual Report: February 8th

Announced and summarized our 2016 results as foundation for Common Cents messaging and positioning across all following communications activities.

- Chime Bank Fee Finder Launch: February 28th

Coordinated announcement with Chime to promote Common Cents' role in product development and prototyping.

- 2017 Cohort Introduction: March 15th

Announced our 2017 partners to establish baseline for ongoing content and media opportunities throughout the year.

- Retiremap Launch: June 8th

Supported the launch of Retiremap tool with formal press release over the wire and outreach to target press.

- Millennial Regret Survey Findings: September 12th

Packaged findings from survey as infographic and press release to pitch for news coverage and to use in direct marketing channels.

- 2018 Cohort Application Open: October 6th

Announced the opening of application period for new Common Cents 2018 partners.

Media Coverage

- **PYMNTS**

Common Cents MetLife Unveil Annual Report

February 8th

Reach: 1.7 million unique monthly visitors

SharedCount Score: 2

- **American Banker**

Teach Customers to Save and Maybe They'll Stick Around

February 10th

Reach: 433,704 unique monthly visitors; 37,100 subscribers

SharedCount Score: 209

- **Bloomberg**

How Behavioral Economics Can Help You Retire Rich

February 17th

Reach: 43.6 million unique monthly visitors

SharedCount Score: 2,200

- **PYMNTS**

Chime, Common Cents Launch New Consumer Tool

February 28th

Reach: 1.7 million unique monthly visitors

SharedCount Score: 1

- **Fast Company**

Lemonade is Using Behavioral Science to Onboard Customers and Keep Them Honest

March 17th

Reach: 11.8 million unique monthly visitors; 741,428 subscribers

SharedCount Score: 2,100

- **Wall Street Journal**

How Your Phone Can Keep You From Spending

April 7th

Reach: 43.6 million unique monthly visitors; 1.2 million subscribers

SharedCount Score: 1,040

- **Atlantic**

How to Trick People Into Saving Money

May issue

Reach: 23.9 million unique monthly visitors; 572,164 subscribers

SharedCount Score: 2,510

- **Bank Director**

When a Penny Saved is Not a Penny Earned

May 10th

Reach: 30,059 unique monthly visitors; 25,655 subscribers

- **American Banker**

Two New Services Aim to Help Consumers Save

June 8th

Reach: 433,704 unique monthly visitors; 37,100 subscribers

- **401kWire**

Retiremap Welcomes New Automated Platform (newsletter, no link)

June 8th

- **Bankless Times**

Retiremap Launches Hybrid Financial Coaching Platform

June 13th

Reach: 16,718 unique monthly visitors

SharedCount Score: 0

- **Forbes**

Help Users Overcome Psychological Barriers Around Spending

July 20th

Reach: 29.8 million unique monthly visitors

SharedCount Score: 13

- **NerdWallet**

5 Financial Goals for Fall

August 28th

Reach: 50,099 unique monthly visitors

SharedCount Score: 188

- **Credit.com**

Sick of Overdraft Fees? There's an App for That.

September 1st

Reach: 795,647 unique monthly visitors

SharedCount Score: 23

- **WIRED**

Startups are Finally Taking on Food Stamps

September 6th

Reach: 19.1 million unique monthly visitors; 873,884 subscribers

SharedCount Score: 996

- **Paybefore**

Common Cents Lab Unveils Millennial Financial Regret Spending Report

September 13th

Reach: 48,113 unique monthly visitors, 1,145 subscribers

SharedCount Score: 12

- **Banking Tech**

Infographic: Millennials' Financial Regrets

September 14th

SharedCount Score: 113

- **CBS Marketwatch**

The No 1 Financial Regret of Millennials (and they don't have many)

September 15th

Reach: 428,588 unique monthly visitors

SharedCount Score: 812

- **Bankless Times**

Common Cents Lab Report Identifies Four Positive Personal Financial Habits

September 15th

Reach: 16,718 unique monthly visitors

SharedCount Score: 4

- **Forbes**

The Best Way to Stress Less About Money

September 19th

Reach: 29.8 million unique monthly visitors

SharedCount Score: 247

- **Bankless Times**

Common Cents Lab Accepting 2018 Behavioral Design Partners

October 6th

Reach: 16,718 unique monthly visitors

SharedCount Score: 15

- **Money Tips**

Millennial Money Regrets

October 17th

SharedCount Score: 5

- **Connecticut Post**

Millennial Money Regrets

October 17th

Reach: 1 million unique monthly visitors

SharedCount Score: 0

- **Inc.**

Millennials' 3 Biggest Spending Regrets (and how to avoid them)

October

Reach: 19.1 million unique monthly visitors

SharedCount Score: 209

- **CBS Marketwatch**

These Americans Struggle the Most to Pay One Unexpected $500 Bill

October 3rd

Reach: 428,588 unique monthly visitors

SharedCount Score: 19

- **CBS Marketwatch**

The No. 1 Financial Regret of Americans

October 21st

Reach: 428,588 unique monthly visitors

SharedCount Score: 812

- **BenefitsPRO**

4 Behavioral Strategies to Boost Financial Wellness

October 26th

Reach: 199,913 unique monthly visitors

SharedCount Score: 10

Bylines

- **Next Billion**

FinTech's Elephant Seal Problem

March 14th

Reach: 175,550 unique monthly visitors

SharedCount Score: 132

- **Scientific American**

3 Ways to Save More on Tax Day

April 11th

Reach: 11.8 million unique monthly visitors

SharedCount Score: 101

- **Stanford Social Innovation Review**

Choosing Nurture, Not Nature, to Improve Financial Decision-Making in America

April 12th

Reach: 453,692 unique monthly visitors; 12,000 subscribers

SharedCount Score: 264

- **Scientific American**

Let's Make Tax Day a Month Earlier

April 13th

Reach: 11.8 million unique monthly visitors

SharedCount Score: 199

- **Paybefore**

How to Grow Prepaid Through Financial Well-Being

April 27th

Reach: 48,113 unique monthly visitors, 1,145 subscribers

SharedCount Score: 14

- **InvestmentNews**

How 401(k) Advisers Can Create Effective Financial Wellness Programs

May 21st

Reach: 436,933 unique monthly visitors

SharedCount Score: 81

- **TechCrunch**

Taxes in the Gig Economy

August 20th

Reach: 12.5 million unique monthly visitors

SharedCount Score: 459

- **Next Billion**

Control vs Ease of Use: Low-Income Customers Weigh In on Financial Services

August 21st

Reach: 175,550 unique monthly visitors

SharedCount Score: 36

- **TechCrunch**

Four Behavioral Economics Strategies for Improving Consumer Financial Health
October 10th

Reach: 12.5 million unique monthly visitors

SharedCount Score: 497

- **American Banker BankThink**

Fintech's Achilles Heel: Reaching Low-Income Consumers

October 16th

Reach: 433,704 unique monthly visitors; 37,100 subscribers

SharedCount Score: 290

- **LinkedIn**

Money 20/20 Shows Promising Growth of Financial Inclusion

October 25th

SharedCount Score: 335