Behavioral Design Guides

Tools To Manage Spending

finhealthnetwork.org

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About Our Behavioral Design Guides

This guide is part of a series designed to provide product managers, designers, and strategists with a behavioral framework for building finhealth-minded financial products.

What Is Behavioral Design?

The field of **behavioral science offers powerful insights** into what drives consumers' decisions, including the cognitive biases and mental shortcuts that shape the way we process and act on information. Understanding these mechanisms can help business leaders to design products and services in ways that support consumers' financial health.

Why Behavioral Design?

It supports consumers *and* unlocks business opportunities.

Improving financial health outcomes with behaviorally-informed products and services is a route toward developing longer and better relationships with customers. Consumers who believe that their primary financial institution supports their financial health are:[1]

3x more satisfied

3x more likely to refer a new customer

5x more likely to buy additional products and services

It supports financial institutions' equity strategies.

Research demonstrates that consumers with lower socioeconomic status, financial literacy, and numeracy skills are more influenced by choice architecture, or a decision's structure.[2, 3] Companies can reduce financial health disparities by structuring consumer choices in supportive – rather than harmful – ways.

How To Get Started

Integrating behavioral science into product design can be **effective and low-cost**. Nudges can influence consumers' choices without restricting their options or changing their economic incentives, such as:

- Determining which options to highlight.
- Updating whether a service is opt-in or opt-out by default.
- Reframing messaging.

Behavioral science is one tool that product leaders can use to support financial health, alongside practices such as transparent pricing and developing products and features that cater to demographically and financially diverse populations. Ongoing customer research is also important for helping companies identify how the recommendations in this guide might impact their customers. This guide is intended to highlight promising approaches to integrating behavioral science into product design for product leaders to learn from and adapt to their own context and customers' financial health needs.

[1] Marisa Walster, Nadia van de Walle, & Stephen Arves, "Building Valuable Customer Relationships Through Financial Health," Financial Health Network, August 2020.

[2] Kellen Mrkva, Nathaniel A. Posner, Crystal Reeck, & Eric J. Johnson, "Do Nudges Reduce Disparities? Choice Architecture Compensates for Low Consumer Knowledge," Journal of Marketing, January 2021.

[3] Socioeconomic status is a measure combining educational attainment, occupational status, and income. Numeracy is the ability to apply mathematical concepts like probability and percentages.

Managing Spending and Financial Health

By designing tools to help people manage spending effectively, financial services companies can support their customers' financial health and build stronger relationships with them.

Our annual Financial Health Pulse® survey found that more than 1 in 5 households in the U.S. spent more than their income in 2023. Among the eight indicators that determine a person's financial health, spending less than or equal to income is the area where households experienced the largest increase in challenges between 2021 and 2022.[4] In 2023, this indicator was at the lowest rate seen in the six years that the Financial Health Network has released national statistics about financial health.[5] Spending more than income can mean draining savings or taking on debt to cover expenses, leading to greater financial insecurity or challenges with managing credit.

While spending tools can't combat macroeconomic issues that contribute to households' financial health challenges, like rising prices or insufficient incomes, they can provide helpful support to consumers at any income level where discretionary spending is an option. More than 1 in 3 households with incomes of at least $100,000 per year report spending the same as or more than their income.[6] In this environment, financial services companies have a significant opportunity to deliver effective tools to help consumers manage their spending. By responding to consumers' financial health needs, companies can build stronger customer relationships and benefit from a customer base that is better equipped to stay current with debt, build savings, and buy products and services that support long-term financial goals.

More than 1 in 5 households spent more than their income in 2023.

This guide addresses **three key opportunities** for supporting consumers with managing their spending:

1 — Spending Aids

Provide consumers with strategies that help them meet their spending goals.

2 — Account Balance Tracking

Offer tools that help people manage their income and expenses between paydays.

3 — Budgeting Tools

Ensure budgeting tools help consumers set realistic targets and stay on track.

[4] The Financial Health Network developed the FinHealth Score® to provide researchers and stakeholders with a standard metric to understand the financial lives of Americans. The FinHealth Score relies on eight survey questions, one for each of the eight indicators of financial health. See the FinHealth Score methodology webpage for more information.

[5] Kennan Cepa et al., "Financial Health Pulse® 2023 U.S. Trends Report," Financial Health Network, September 2023.

[6] Custom analysis of data from the Financial Health Pulse® 2023 U.S. Trends Report.

WHO SHOULD USE THIS GUIDE?

This guide provides recommendations that are applicable to payment, banking, personal financial management (PFM), and financial coaching providers that:

- Display information about account balances and spending.
- Provide consumers with options or insights linked to spending devices like debit cards, credit cards, prepaid cards, and electronic payments.
- Engage with consumers on budgeting.

The recommendations within this guide are intended as a launchpad for ongoing industry-wide learning. Providers should keep testing these ideas, sharing results, and refining approaches.

1 Spending Aids

What's Challenging About It

Consumers are constantly surrounded by opportunities to spend money. For those who are trying to cut back on discretionary spending, it is a test of self-control to resist the instant gratification of purchasing goods or experiences in favor of saving money for future needs or goals. Other challenges for managing spending include:

- **Using payment methods that separate the cost from the purchase.** Payment decoupling describes why people may spend more when paying with a deferred payment method such as a credit card.[8] When people use credit or mobile payment methods, they are less likely to think about the cost of the purchase and what it means for their overall finances.[9]
- **Not recognizing how small, routine purchases can add up over time.** The pennies-a-day effect explains why people with disposable income may be more willing to make small, frequent purchases, because each small purchase seems insignificant to their overall finances.[10] As a result, people may underestimate how these small discretionary expenses add up over time.

Why It Matters

People face spending decisions all the time. Overspending can lead to overdraft fees, interest costs from carrying credit card balances month to month, and financial stress. Consumers want tools that help them keep their spending in check: In a study by the Consumer Financial Protection Bureau, 90% of people reported being interested in tools that provide real-time spending feedback to help them cut back on impulse spending and stay within budget.[7]

[7] "Consumer Insights on Managing Spending," Consumer Financial Protection Bureau, February 2017.
[8] Richard H. Thaler, "Mental accounting matters," Journal of Behavioral Decision Making, July 1999.
[9] Dilip Soman, "Effects of Payment Mechanism on Spending Behavior: The Role of Rehearsal and Immediacy of Payments," Journal of Consumer Research, March 2001.
[10] John T. Gourville, "Pennies-a-Day: The Effect of Temporal Reframing on Transaction Evaluation," Journal of Consumer Research, March 1998.

How To Help

A range of financial service providers – namely payment providers, account providers, PFM providers, and financial coaches – can help consumers make spending decisions before, during, and after the moment of purchase.

Enable Spending Controls

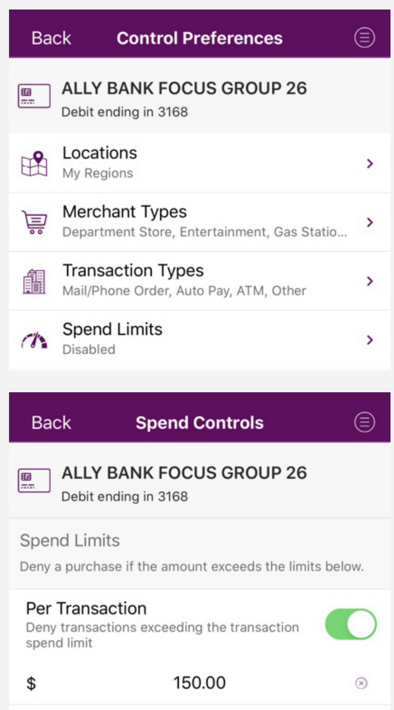
Use commitment devices to help customers stick to their budgets.

To help customers who want to cut back on discretionary spending, payment providers can offer strategies designed to help them stick to their intentions. Research shows that these strategies, known as commitment devices, are effective in the field of short-term savings. A study with a Filipino bank found that customers who opened a savings account with a commitment to not make any withdrawals until they reached a certain date or balance had significantly higher savings balances after a year than customers without access to the commitment device.[11]

Payment providers can offer a way for customers to implement commitment devices in the form of spending guardrails. Debit card providers, for example, can let customers place a spending pause that will decline purchases for specific merchants or purchase categories (e.g., restaurants or department stores). Providers can also allow customers to place dollar limits on their overall spending, after which any additional purchases are declined. Customers should be able to override these spending controls if they so choose, but the extra step of having to toggle their spending controls "off" may help overcome payment decoupling by slowing down the process and calling attention to the cost of the purchase. Alternatively, any provider with visibility into their customers' spending behavior can trigger messages that notify customers of purchases made outside of their preset guardrails. This option still helps call attention to the cost of the purchase, and might appeal to customers who are hesitant to pause their purchases fully.

Figure 1. Ally Bank's Card Controls™.

Ally's Card Controls™ offer debit card customers the option to limit purchases by enabling or disabling spending within set geographic regions; merchant categories (e.g., entertainment or household); or transaction types (e.g., online purchase, in-store, or ATM). Customers can also set a maximum dollar amount per transaction.[12]



Source: AppAdvice

[11] Nava Ashraf, Dean Karlan, & Wesley Yin, "Tying Odysseus to the Mast: Evidence From a Commitment Savings Product in the Philippines," The Quarterly Journal of Economics, May 2006.

[12] "Ally Bank Launches Debit Card Controls Mobile Application," Ally Financial Inc., March 2017.

Provide Peer-Based Spending Comparisons

Use social proof to support customers' spending goals.

Social proof can be a powerful motivator for behavior change. One study found that sending home energy reports that rated customers' energy use against their neighbors was successful at lowering overall energy consumption, because high-usage households decreased their energy consumption to match the levels of their neighbors.[13] To support customer spending goals, account, payment, and PFM providers can use customer data to provide spending comparisons when a customer's spending is higher than their peers.

To enhance impact, providers can generate comparisons based on people who share characteristics such as age, income, or location. For example, fintech company Status Money constructed peer groups based on age, income, location, location type (e.g., urban versus suburban), credit score range, and housing type (e.g., rental versus owned) when sharing peer spending information with its users.[14]

Notably, peer-based spending comparisons could have the opposite effect by inducing spending for customers whose spending is lower than their peers (see Matching Peer Spending Behavior). For these customers, providers could instead display a simple message or banner notifying them that their current spending levels are the same as, or less than, their peers.

[13] Hunt Allcott, "Social norms and energy conservation," Journal of Public Economics, October 2011.

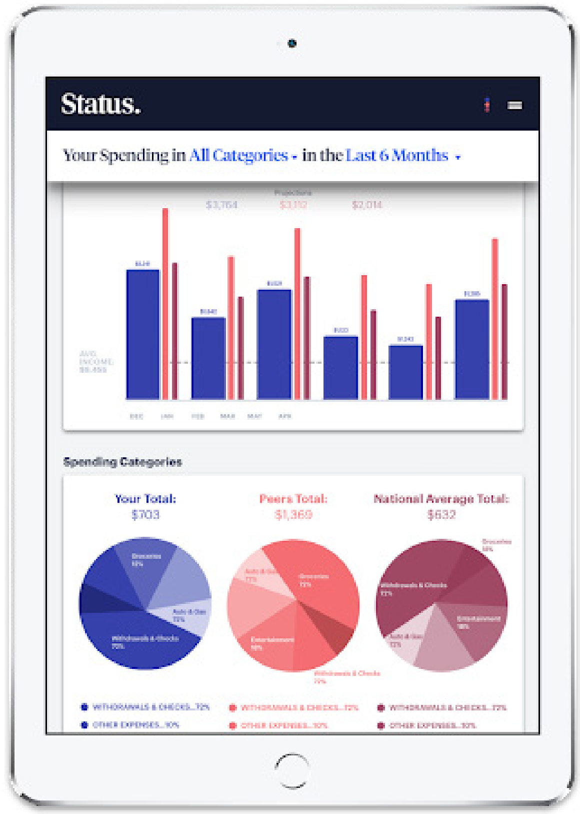
[14] Francesco D'Acunto, Alberto G. Rossi, & Michael Weber, "Crowdsourcing Peer Information to Change Spending Behavior," Chicago Booth Research Paper No. 19-09, Fama-Miller Working Paper, January 2023.

RESEARCH SPOTLIGHT

Matching Peer Spending Behavior

Status Money was a PFM platform that provided its users with data-driven feedback on how their monthly spending compares with their peers. Researchers found that new users who saw that they spend more relative to their peers reduced their spending by an average of $231 per month in the 90 days after signing up for the app.[15,16] By month 12 of using the app, they were spending an average of $1,500 less per month than their monthly spending at signup (at signup, the average overspender spent $4,000 more per month than their peer group).

Conversely, users who were shown that they underspend compared with their peers increased their average spending over the next 12 months, although to a much smaller degree.[17] This finding implies that peer comparisons could be counterproductive for these customers. Therefore, providers may want to only share this information with customers who are overspending compared with their peer group.



Source: Status Money

[15] Francesco D'Acunto, Alberto G. Rossi, & Michael Weber, "Crowdsourcing Peer Information to Change Spending Behavior," Chicago Booth Research Paper No. 19-09, Fama-Miller Working Paper, January 2023.

[16] Note: Spending reductions were based on spending averages over the 90 days prior to signup, adjusted for seasonal fluctuations in spending.

[17] Francesco D'Acunto, Alberto G. Rossi, & Michael Weber, "Crowdsourcing Peer Information to Change Spending Behavior," Chicago Booth Research Paper No. 19-09, Fama-Miller Working Paper, January 2023.

2 Account Balance Tracking

Why It Matters

How people manage their income between paychecks can influence their ability to pay for necessary expenses. In 2023, 29% of people reported that they weren't able to pay all their bills on time.[18] Late or missed bills can lead to fees and other hardships, such as an overreliance on high-cost credit, loss of utilities, or damaged credit scores if the bill is a credit payment or is sent to collections. For households with low incomes that are living paycheck to paycheck, problems affording their bills may be difficult to solve. However, for consumers with bill payment challenges that result from mismatches in timing (e.g., a bill comes due at the end of the month and the next paycheck has not yet cleared) or a lack of tools that help them manage the money they need for bills versus other spending, there are strategies that can help. For example, consumers may be able to work with their billers to align timing of bill due dates and their paydays. Providers can offer additional strategies, as detailed in this section.

In 2023, 29% of people reported that they weren't able to pay all their bills on time.

What's Challenging About It

For many people, the timing of receiving income does not always line up with the timing for paying expenses. This, in turn, can negatively impact people's ability to pay bills on time or afford necessities without turning to credit. Other barriers include:

- **Increased spending around paydays.** Known as the payday effect, people tend to increase their spending on or around paydays because the inflow of cash makes them feel wealthier than normal, granting them license to spend.[19, 20] This can present issues if the initial spending surge doesn't leave enough funds for expenses that arise before the next payday.
- **Trouble keeping up with cash inflows and outflows.** People all have limits on how much information they can process at one time. When managing account balances between paydays, the cognitive load of tracking income, spending, and credit balances and prioritizing expenses and due dates can become overwhelming and lead to issues meeting payment deadlines or budget shortfalls.[21]

[18] Kennan Cepa et al., "Financial Health Pulse® 2023 U.S. Trends Report," Financial Health Network, September 2023.
[19] Melvin Stephens Jr., "'3rd of tha Month': Do Social Security Recipients Smooth Consumption Between Checks?," The American Economic Review, March 2003.
[20] Arna Olafsson & Michaela Pagel, "The Liquid Hand-to-Mouth: Evidence from Personal Finance Management Software," The Review of Financial Studies, April 2018.
[21] Cary Deck & Salar Jahedi, "The effect of cognitive load on economic decision making: A survey and new experiments," European Economic Review, August 2015.

How To Help

Mental accounting is the system of rules and categories that people use to keep track of their income and expenses.[22] These mental shortcuts allow people to make spending decisions without having to consider their entire financial picture in all its complexity. Account and PFM providers can offer tools that align with these mental rules to help people manage their income and expenses.

Define What's Spendable

Simplify access to account balances.

Part of mental accounting is keeping a balance of income versus spending. One way providers can help lighten customers' cognitive load of tracking incomes and expenses between paydays is by simplifying access to current account balances. Research found that after recipients of Supplemental Nutrition Assistance Program (SNAP) benefits (i.e., food stamps) were introduced to an app that provided a quick and easy way to access their current benefits balance, they used their benefits more evenly throughout the month and experienced fewer days with balances below $5.[23] Similarly, a field study in Iceland found that providing easier access to transaction records and account balances through a fintech app led to lower bank fees (including late bill fees and overdraft fees) among people who accessed the app.[24]

While showing a current account balance provides a snapshot of available funds, it doesn't account for other important factors that determine someone's financial standing, such as current credit card balances or upcoming bills or loan payments. In response, some account providers and PFM providers are helping customers see what portion of their income is really spendable, versus what portion will go toward covering monthly bills. These sorts of emerging predictive tools, although newer to the market, can help take the guesswork out of spending decisions throughout the month by anticipating future expenses. However, more research is needed to understand how they shape spending behavior over time (see "Safe to Spend" Tools).

[22] Richard Thaler, "Mental Accounting and Consumer Choice," Marketing Science, 1985.

[23] Andrew Hillis, "Salience through Information Technology: The Effect of Balance Availability on the Smoothing of SNAP Benefits," Harvard Business School Working Paper, October 2017.

[24] Bruce Carlin, Arna Olafsson, & Michaela Pagel, "FinTech and Consumer Financial Well-Being in the Information Age," January 2019.

“SAFE TO SPEND” TOOLS

Balance forecasting tools are one way to help people manage their spending between paychecks by accounting for recurring expenses. By leveraging historical data on recurring transactions, such as monthly bills, other scheduled payments, or routine savings deposits, providers can give customers a better sense of what portion of their current balance is “safe to spend” before they’re at risk of running out of funds. Several PFM providers offer these predictive tools: Achieve’s MoLO (Money Left Over) app predicts how much money users will have left over at the end of the month, the ONE@Work (formerly Even) app calculates what’s “okay to spend,” and the Weekly app provides a weekly “Safe-to-Spend” amount.

While these tools certainly show potential to help customers manage their income and spending throughout the month by highlighting cash flow and taking the guesswork out of spending decisions, prior research suggests that the preciseness of a “safe to spend” amount could potentially create license to spend. Research on budget feedback found that people who were told exactly how much was left in their budget spent more than people who were left to estimate their balances, likely because they felt more confident in how much they could spend while still staying within budget.[25]

More research is needed to understand whether the certainty of a “safe to spend” balance could unintentionally lead to increased spending. We encourage providers offering similar features to share their learnings about how customers interpret these tools and how they impact spending behavior and other financial health indicators over time.

[25] Anastasiya Pocheptsova Ghosh & Liang Huang, “Dynamic Budget Monitoring: When Access to Budget Feedback Leads to Increase in Spending,” Think Forward Initiative, September 2020.

Define What's *Not* Spendable

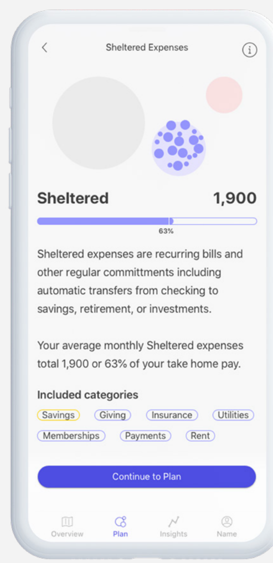
Help customers earmark income for upcoming expenses.

Another way providers can help customers stretch their income over the course of the month is by allowing customers to earmark or "hide" a portion of their paycheck that will eventually cover monthly expenses. This can give customers a clearer picture of how much of their income they should reserve for necessities versus how much is available to spend on other purchases (see Figure 2). Ally Bank's Spending Buckets, for example, allow checking account customers to earmark a portion of their balances for recurring expenses such as rent or groceries, helping customers plan ahead for bills and track their spending. While similar in principle to "safe to spend" features, these tactics place the emphasis on creating a sub-account that's not spendable on discretionary purchases, rather than the other way around. Additionally, earmarking acts as a commitment device (see Enable Spending Controls for further discussion of commitment devices), which can help people resist the temptation to overspend on payday.

Beyond earmarking, another way to address challenges arising from the mismatch in the timing of income and expenses is by changing the cadence of when people receive their income. Some financial providers are partnering with employers to offer workers the option to access their pay on a more frequent basis, even daily. This can help workers avoid the scenario of a bill coming due when their account balance is low and payday is still several days away. However, there is still room to explore ways to design wage advance products to maximize financial health (see Earned Wage Access).

Figure 2. The Beans' Sheltered Expenses.

The Beans is a cash flow planning provider that offers a way for customers to earmark a portion of their income to cover regular commitments to others and themselves (e.g., bills and savings). This "Sheltered" balance is kept separate from their "Free to Spend" balance, so users protect their committed funds and have a clear idea of what they can spend on daily decisions.



Source: Image provided by The Beans

EARNED WAGE ACCESS

Earned wage access products are designed to give consumers on-demand access to their wages so that they may cover necessary expenses that come up before the next payday without having to rely on higher-cost credit options.

Nearly 7 in 10 private employers process payroll on a biweekly, semi-monthly, or monthly cadence.[26] Earned wage access products allow workers the option to access their pay in smaller, more frequent installments (such as weekly or even daily). However, research suggests that the payday effect – the idea that people may feel wealthier on payday and therefore spend more freely – may apply to more frequent paychecks as well.

Using data from a large U.S. financial institution, researchers found that customers who received their paychecks on a more frequent basis spent more money on discretionary purchases than customers who were paid less frequently, even after controlling for income.[27]

For consumers who experience timing gaps between expense due dates and payday, earned wage access products can be an important tool. However, given the research on pay frequency and spending behavior, earned wage access providers should continue to consider ways to prevent more frequent pay from driving up spending behavior.

[26] "Length of pay periods in the Current Employment Statistics survey," U.S. Bureau of Labor Statistics, last updated August 2023.

[27] Wendy De La Rosa & Stephanie M Tully, "The Impact of Payment Frequency on Consumer Spending and Subjective Wealth Perceptions," Journal of Consumer Research, April 2022.

3 Budgeting Tools

Why It Matters

Budgeting is one way that people can plan and manage their spending and work toward their financial goals. In fact, the majority of people keep some sort of budget. A 2022 study found that more than 65% of individuals across income brackets keep a budget.[28] Budgeting can be helpful even when done imperfectly: A U.K. study found that having a budget led to decreased spending over a six-month period, even among people who frequently overspent their budgets.[29]

The widespread nature of budgeting suggests a strong consumer demand for tools that help them manage their finances. Various types of providers engage with consumers on budgeting – from primary financial institutions and fintechs offering PFM tools to financial coaches and debt counselors. Offering intuitive, research-informed budget tools is one way providers can build more meaningful relationships with their customers and help them work toward their financial goals.

What's Challenging About It

Setting up and tracking against a budget is challenging because it takes time, effort, and ongoing motivation. Challenges for setting and tracking a budget include:

- **Underestimating future purchases.** Expense prediction bias occurs when people forecast future expenses based only on their most typical and predictable expenses, such as groceries, rent, or utilities bills.[30, 31] This can ultimately lead to budget shortfalls, since budgets fail to account for other common expenses.
- **Abandoning unmet goals.** The what-the-hell effect occurs when failure to meet a goal causes people to abandon their goal completely.[32] In terms of budgeting, this means that people who overspend their budget might proceed to make even more purchases in that budget category, since they already surpassed their goal.

More than 65% of individuals across income brackets keep a budget.

[28] C. Yiwei Zhang, Abigail B. Sussman, Nathan Wang-Ly, & Jennifer Lyu, "How Consumers Budget," July 2022.

[29] Marcel F Lukas & Ray Charles "Chuck" Howard, "The Influence of Budgets on Consumer Spending," Journal of Consumer Research, February 2023.

[30] Ray Charles "Chuck" Howard, David J. Hardisty, Abigail B. Sussman, & Marcel F. Lukas, "Understanding and Neutralizing the Expense Prediction Bias: The Role of Accessibility, Typicality, and Skewness," Journal of Marketing Research, April 2022.

[31] Abigail B. Sussman & Adam L. Alter, "The Exception Is the Rule: Underestimating and Overspending on Exceptional Expenses," Journal of Consumer Research, December 2012.

[32] Dilip Soman & Amar Cheema, "When Goals Are Counterproductive: The Effects of Violation of a Behavioral Goal on Subsequent Performance," Journal of Consumer Research, June 2004.

How To Help

PART I: SETTING A BUDGET

Setting a budget by establishing spending goals is a crucial first step in the overall budgeting process. The considerations below should help providers with budget tools best assist their customers in creating budgets that set them up for success.

Encourage Realistic Budgets

Seize opportunities to promote budget accuracy.

Consumers may overlook non-bill expenses that don't fit cleanly within their normal spending patterns or are perceived as rare or one-time expenses – for example, a wedding gift or a new TV. However, these sorts of expenses come up more often than people may realize, and they can lead to overspending if people fail to account for them when setting a budget.

One way that providers can help consumers set more realistic budgets is by encouraging them to consider why their future spending might be different. A study with users of a PFM app in the United Kingdom found that people who were asked to list at least one reason why their spending might be different in the upcoming week predicted their spending with significantly more accuracy than those who didn't receive the prompt.[33] By prompting customers to think about the hypothetical reasons why future spending might vary, they will be more likely to think beyond their typical expenses and factor in commonly overlooked expenses to their budget goals as well.

RESEARCH SPOTLIGHT

Improving Budget Accuracy

Emphasizing budget accuracy over ambition when setting spending goals may also help mitigate the expense prediction bias. Data from a budgeting app revealed that people are more likely to under budget for discretionary expense categories such as clothing, restaurants, and gifts.[34] People underestimated spending in these areas by an average of $66 in the first month after budgeting. In contrast, for bill categories like cable, rent, insurance, and loan payments, they underestimated spending by only $23.[35]

Researchers found that tactics that shift budgeters' focus from aspiration to accuracy helped close this gap. For example, people set more realistic budgets for discretionary expenses when they were asked to estimate how their best friend would budget. People were also less likely to underestimate their spending when asked how much they are likely to spend, instead of how much they should spend.

[33] Ray Charles "Chuck" Howard, David J. Hardisty, Abigail B. Sussman, & Marcel F. Lukas, "Understanding and Neutralizing the Expense Prediction Bias: The Role of Accessibility, Typicality, and Skewness," Journal of Marketing Research, April 2022.

[34] Eleanor Putnam-Farr & Anastasiya Pocheptsova Ghosh, "Turning "Expenses" Into "Bills": How Spending Categorization Impacts Budget Optimism and Likelihood of Success," Association for Consumer Research, NA - Advances in Consumer Research, 2018.

[35] Ibid.

Setting a Budget: Additional Opportunities To Explore

Emergency Reserves as Budget Slack

Emergency reserves are a tactic that builds flexibility into a goal in order to keep goalsetters motivated – for example, a weekly "cheat meal" acts as an emergency reserve for an otherwise strict diet plan.[36] A series of studies have found that establishing an emergency reserve, or "predefined slack," as part of a goal led to people being more inclined to sign on to the goal in the first place and more likely to stay motivated to reach the goal, than when there was no emergency reserve in place.[37]

While emergency reserves have applications in contexts such as health and fitness, they are newer to the budgeting space.[38] For budgeting, an emergency reserve could be an extra allotment for unbudgeted expenses. This might be labeled as an "unplanned purchase fund" or a "just in case fund," but the premise is the same. If an unplanned expense arises, such as a friend's special birthday dinner or a computer repair bill, budgeters can use their reserve budget funds to cover the expense while preventing overspending in another budget category (for more on borrowing funds across budgets, see Prompt Borrowing Across Categories).

When setting a budget, an emergency reserve category could grant budgeters the peace of mind that they'll be able to meet their spending goals – even when an expense comes up that is unexpected or more expensive than anticipated. Once their budgets are set, this may also help consumers avoid overspending on unplanned purchases because it helps them consider each purchase in the context of all similar spending. For example, a study found that when people were prompted to consider an upcoming birthday gift purchase in the context of all of the birthday gifts they'd purchased that year, they spent less on the gift than those who did not receive the prompt.[39] While emergency reserve budget categories haven't been tested yet, providers can explore this and other ways to add flexibility into budget goals to maintain customers' motivation.

[36] Marissa A. Sharif & Suzanne B. Shu, "The Benefits of Emergency Reserves: Greater Preference and Persistence for Goals that Have Slack with a Cost," Journal of Marketing Research, June 2017.

[37] Ibid.

[38] Marissa A. Sharif & Suzanne B. Shu, "Nudging persistence after failure through emergency reserves," Organizational Behavior and Human Decision Processes, March 2021.

[39] Abigail B. Sussman & Adam L. Alter, "The Exception Is the Rule: Underestimating and Overspending on Exceptional Expenses," Journal of Consumer Research, December 2012.

Setting a Budget: Additional Opportunities To Explore

Budget Categories

According to a nationwide survey, over 90% of people who budget use categories to do so, and many use a similar set. The top five most common spending categories include "food," "bills," "utilities," "rent," and "groceries."[40] There is more variation, however, in how narrowly or broadly people define their spending categories. Some budgeters use fairly broad categories to track their spending (for example, "food"), while others opt for more detailed categories ("groceries" and "dining out").[41] There is less known about how the granularity of budget categories affects spending behavior over time.

Over 90% of people who budget use categories to do so.

Research on mental accounting found that when grocery shoppers were prompted to think about a smaller mental account (in this case, the contents of their wallets), they spent less than shoppers who were prompted to think about a larger mental account (the money in their bank accounts).[42] This would suggest that broader budget categories, by acting as large mental accounts, could lead to increased spending. However, other research has found that broader budget categories may actually help people reduce their spending. A study on budget feedback found that when consumers split their budgets into multiple subcategories (e.g., "groceries" and "eating out"), they were more likely to overspend than consumers who managed a single overall budget category (e.g., "food and dining").[43]

Given how pervasive budgeting categories are for tracking spending, providers offering budgeting tools have an opportunity to test different approaches to find what helps their customers budget most successfully. More exploration is needed to understand how the number and size of budget categories can help people cut back on spending.

[40] C. Yiwei Zhang, Abigail B. Sussman, Nathan Wang-Ly, & Jennifer Lyu, "How Consumers Budget," July 2022.

[41] Ibid.

[42] Carey K. Morewedge, Leif Holtzman, & Nicholas Epley, "Unfixed Resources: Perceived Costs, Consumption, and the Accessible Account Effect," Journal of Consumer Research, December 2007.

[43] Anastasiya Pocheptsova Ghosh & Liang Huang, "Dynamic Budget Monitoring: When Access to Budget Feedback Leads to Increase in Spending," Think Forward Initiative, September 2020.

PART 2: TRACKING AGAINST A BUDGET

While some budgeters may choose to set it and forget it, others like to track their spending against their budget as they go. Below are some considerations for how providers can help budgeters achieve their budgeting goals.

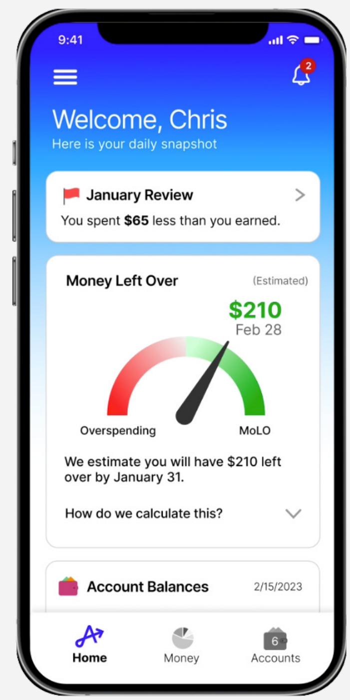
Let Customers Know They're on Track

Signaling when spending is on track can help people avoid unplanned spending.

Providers that offer budgeting tools can help customers know how they are performing against their goals by providing real-time spending feedback. However, there are a few important considerations for how providers can best deliver budget feedback to their customers to help promote success. For one, budget feedback that does not mention time periods may be more effective at helping budgeters keep spending steady throughout the month. A study found that when people were given general feedback based on budget status (e.g., "you are in the safe spending range") as opposed to spending progress over a specific time period (e.g., "you've spent $50 this week"), they were more likely to keep their spending constant over time and avoid unplanned spending.[44] Contrary to what providers might think, focusing budgeters' attention on how much money there is left to spend in the budget could unintentionally give them license to spend more for the remainder of the budget period. One way that providers can signal to budgeters whether they are on track is by deploying visuals, like stoplight colors, that indicate whether budgeters' current spending shows that they are on track to meet their monthly budget goals (see Figure 3).

Figure 3. Achieve's MoLO app.

Achieve's MoLO (Money Left Over) app uses a color-coded meter to show budgeters how they are tracking against their monthly spending goals. Rather than display how much money budgeters have spent or have remaining in their budget, the homepage displays a "Money Left Over" amount that users can apply toward savings or other goals.



Source: *Achieve*

[44] Liang Huang & Anastasiya Pocheptsova Ghosh,"Time-Insensitive Budget Tracking: Nudging Consumers to Spread Out Spending Over Time," Association for Consumer Research, NA - Advances in Consumer Research, 2018.

Encourage Rollover Between Budget Periods

Motivate budgeters to carry over unspent funds to the next budget cycle.

Another consideration for providing feedback is that less precise budget feedback may help decrease spending. A series of field studies found that budgeters who were provided precise feedback on how much they had spent so far were more likely to overspend their budget than those who didn't receive this information.[45] In this case, people who were given precise feedback sped up their spending during the latter part of the budget cycle, likely because they no longer felt a need to buffer their estimations of how much they had spent by spending conservatively.[46] However, when budgeters were provided with less precise feedback (e.g., a range of how much they had spent so far) or when they were reminded that they could "roll over" any unspent funds into the following budget cycle, this effect decreased. Encouraging budgeters to roll over any unspent funds into the next month's budget allows them to track and celebrate their progress, while also focusing on the longer term by carrying over funds for future needs.

RESEARCH SPOTLIGHT

Budget Push Notifications

"Pushing" budget feedback through mobile app notifications, email messages, or other means may be helpful for some budgeters, but not for others. An analysis of consumer spending data suggests that especially for people who have a more hands-off budgeting style, pushing out consistent budget feedback could result in them increasing their budgets in response to overspending, rather than spending less.[47] This can lead to a cycle of overspending and raising budget targets.

Providers of budgeting tools should be aware of the potential negative results of budget feedback, monitor customers' responses to budget push notifications, and be willing to adjust their approach accordingly.

[45] Anastasiya Pocheptsova Ghosh & Liang Huang, "Dynamic Budget Monitoring: When Access to Budget Feedback Leads to Increase in Spending," Think Forward Initiative, September 2020.

[46] Ibid.

[47] Nick Pretnar, Christopher Y. Olivola, & Alan Montgomery, "Two-stage Budgeting with Bounded Rationality," January 2021.

Prompt Borrowing Across Categories

Have a plan for when budgeters overspend to help them avoid abandoning their goals.

To help prevent budgeters from abandoning their goal if they fail to meet a spending target, budget providers can offer ways that help users get back on track when they overspend. For example, if a budgeter overspends in one category, prompt them to transfer spending potential from another category to cover the deficit (see Figure 4). In other words, if budgeters overspend in one category, as long as they underspend an equal amount in another category (or categories), they won't exceed their overall budget cap. Research shows that people may be more inclined to transfer spending potential from a category that's closer to the category in which they overspent, so providers could prompt users to "borrow" from related categories (see Interconnected Budget Categories).[48]

RESEARCH SPOTLIGHT

Interconnected Budget Categories

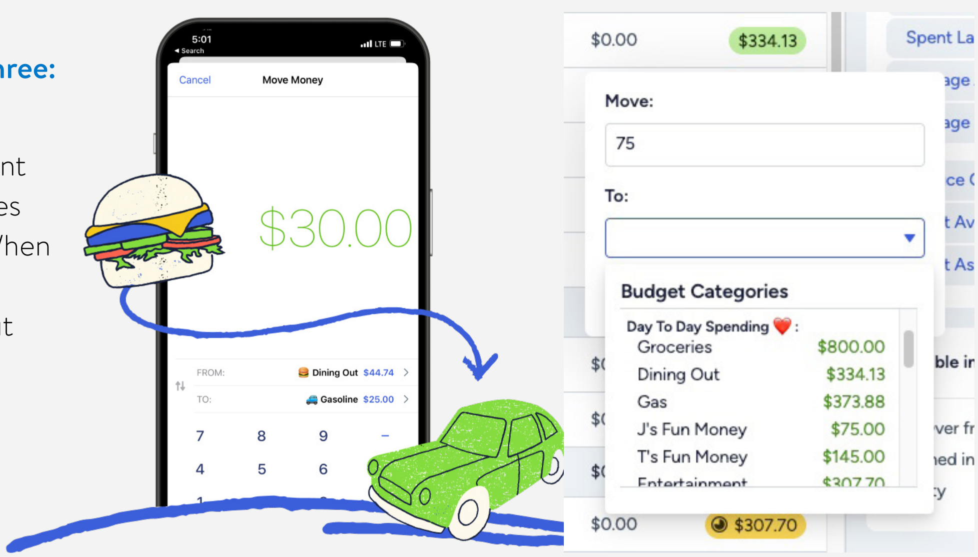
Research conducted on data from over 7 million grocery shopping trips found that when budgeters overspent on an item within a particular expense category, they were more likely to decrease their spending on things closer in classification to the original item.[49] The study also found that people who were told they overspent on juice decreased their spending to a greater degree for milk, followed by pet food, and lastly jeans, since juice and milk are most likely to be grouped together in the same category (and juice and jeans are not).

This suggests that if people overspend in a budget category, they may be more motivated to decrease their spending on expenses in related categories. Providers should continue to test how fluidity across certain budget categories can help budgeters stay on track.

Figure 4. YNAB's Rule Three: Roll With the Punches.

YNAB, a money management method and app, encourages guilt-free spending plans. When budgeters are running low in one expense category but still need (or want) to make a purchase, they can move money between categories to cover it.[50]

Source: Images provided by YNAB



[48] Lin Fei & Daniel M. Bartels, "Consumers' Mental Representation of Expenditures: Implications for Spending and Saving Decisions," July 2023.
[49] Ibid.
[50] "Four rules for less money stress," YNAB.

Building on Best Practices: What's Next?

With a growing number of households spending more than their income, providing effective spending management tools can help consumers reach their long-term financial goals.

This guide provides actionable recommendations for providers of spending management solutions who want to leverage behavioral design to support the financial health of their customers. For customers whose income levels allow for discretionary spending, tools and features that help them manage their income and expenses can contribute to improving other dimensions of financial health. These include credit health, which is covered in our previous behavioral design guide, "A Financial Health Approach to Credit Card Products." Properly managing spending can also help customers build savings buffers and plan for the future, both topics of future design guides.

It is important to note that the behavioral research that serves as a foundation for these recommendations is still evolving. Considering how recent advancements, such as predictive technology, are enhancing the capabilities and availability of spending management tools, the need to understand the behavioral design implications is all the more important.

Other questions for future research include:

How can providers design tools that provide helpful, real-time spending information without prompting increased spending?

How can providers help budgeters create more realistic spending targets?

How can providers leverage budgeting categories to support positive spending behavior?

We hope that the contents of this guide inspire banks and credit unions, personal financial management fintechs, and financial coaches to test these recommendations in the field and share learnings about their financial health impact across contexts and customer segments.

Glossary of Behavioral Science Terms

Choice architecture: The structure of a choice, including how choices are ordered or prioritized. Intentional or not, choice architecture influences the decision-maker.

Cognitive load: People have limits on the amount and complexity of information they can successfully process at a given time. Higher cognitive loads can lead to poor decision-making.

Commitment devices: Strategies in which people place a voluntary constraint on themselves to help them stick to their intentions or influence their future behavior. These devices help people align short-term actions with long-term goals.

Expense prediction bias: The tendency to underestimate future expenses. This can lead to insufficient budgeting or saving, especially for discretionary expenses.

Mental accounting: The system of rules that people use to mentally categorize their income and expenses. Mental accounting means that people treat their money differently depending on where it originated, how it is being spent, and its form.

Nudge: A component of choice architecture that influences people toward a certain action or decision without restricting their choices. Despite being simple and inexpensive to implement, nudges can have substantial effects.

Payday effect: The tendency to increase spending on or around paydays because the inflow of cash makes people feel wealthier than normal, granting them license to spend.

Payment decoupling: The separation of the act of paying for a product or service from the purchase itself, resulting from the use of electronic payment methods like credit cards or digital wallets. This reduces consumers' awareness of the incurred cost and can lead to overspending.

Pennies-a-day effect: The perception that small, recurring discretionary expenses are more affordable than an equivalent lump-sum expense. This can lead to a higher willingness to incur costs, since people often underestimate the long-term financial commitment.

Social proof: The tendency to consider an action or belief as more valid when it has been adopted or endorsed by others. This can serve to motivate people to align their habits with those of their peers.

What-the-hell effect: When a deviation from a set plan or goal causes a person to abandon their goal entirely. This can make it difficult to stick with goals in the long term.

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The Financial Health Network illuminates barriers created by behavioral biases and explores real-world solutions for improving financial health for all.

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