Transforming the retirement participant experience

How AI and behavioral economics can work together to improve engagement and outcomes

By Saurabh Wahi, Ravi Malhotra and Stephen Shu

November 2025

Table of contents

Introduction

Retirement and recordkeeping firms oversee a substantial share of U.S. household financial assets but many Americans feel unprepared for retirement. We believe persistent disengagement may play a role. This report explores the causes behind this disengagement and examines how rapid advancements in Artificial Intelligence (including generative and agentic AI), combined with behavioral economics, present a significant opportunity to improve the experience and outcomes for both participants and firms.

It looks into the strategic and operational barriers recordkeepers face in adopting these AI-driven opportunities and outlines actionable steps leaders could take immediately to leverage technology for enhanced participant experiences, retirement outcomes, and business performance.

This report is informed by Accenture's industry experience, analysis on emerging market trends, insights on evolving customer behavior, and supplemented by interviews with 11 senior executives from leading retirement and recordkeeping firms.

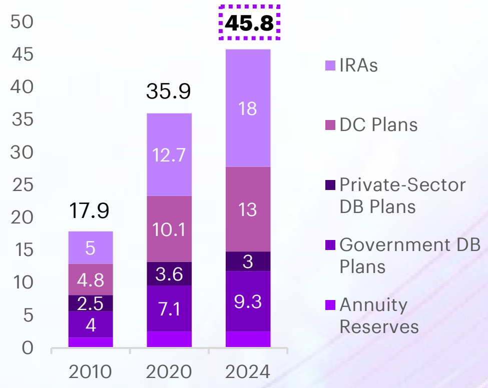
The context: A rapidly consolidating sector

U.S. retirement and recordkeeping firms now manage a massive asset pool—about $45.8 trillion up to mid-2025 (Figure 1), including employer-sponsored plans, IRAs, and annuities[1] – equating to one-third of U.S. household financial assets. Specifically, 401(k) plans represent $8.9 trillion, spread across more than 715,000 plans serving roughly 70 million active participants.[2]

At the same time, the record-keeping business has gotten fiercely competitive. Firms face shrinking fees and compressed margins, as years of technological underinvestment has largely eroded meaningful differentiation opportunities to the point of commoditization. The industry has sharply consolidated, with around half of the top 20 DC recordkeepers by assets under administration in 2011 being acquired by other firms in recent years. In fact, the top five recordkeepers have gained as much as 13 percentage points of market share by assets under administration over the last decade[3] (Figure 2). Further consolidation is expected: Accenture forecasts that within ten years, the top five firms will manage over 75% of market assets.[3]

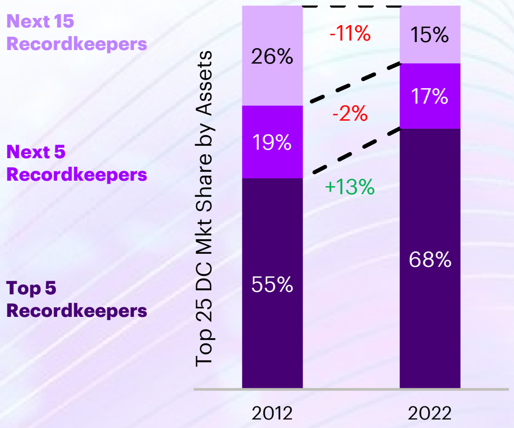
Consolidation presents significant opportunities for firms achieving scale. Those leveraging automation, improved processes, and operational efficiencies can lower per-participant costs, freeing resources to invest in capabilities that enhance participant engagement, contributions, and adoption of advisory services – benefiting individuals both before and during retirement.

Figure 1: US total retirement market assets ($T)[1]



Source: ICI[1]

Figure 2: Change in top 25 recordkeepers' share of defined contribution assets (2012–2022)[3]



Source: Accenture

"We'll see even more consolidation in the sector, because many firms are laden with tech debt and a balloon payment is coming due on this debt. And this payment is too big relative to the value that they can derive from the core business."

Dave Gray
Executive Vice President for Enterprise Solutions, Empower

Sources: **(1)** ICI - Release: Quarterly Retirement Market Data, Second Quarter 2025 | Investment Company Institute; **(2)** Independent Directors Council - 401(k) | Independent Directors Council **(3)** Accenture analysis based on Cerulli Associates, The Cerulli Report | U.S. Retirement Markets (2023) - Reinventing Retirement Recordkeeping Report | Accenture

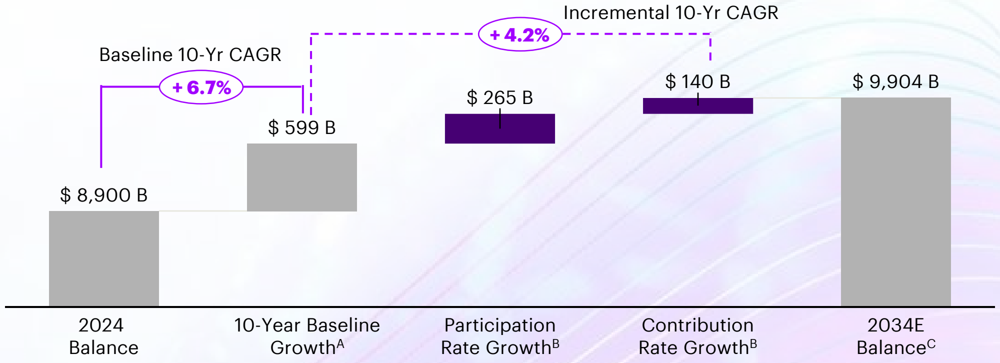
The opportunity: Reframing participant experience and engagement beyond 401(K)

People form their first, and often most enduring, relationship with a retirement recordkeeper as they first enter the workforce. This creates an opportunity for recordkeepers to expand their role beyond administrators of 401(k) plans and become trusted advisors on broader financial topics such as emergency savings, college funding, debt management, taxes, and insurance.

Accenture's modeling demonstrates that improving experience and engagement that motivates more people to participate in the plans available to them, and contribute more to these plans, could unlock an up to incremental $405B in assets under administration (AUA) within the sector over a 10-year horizon. This would represent a significant increase by about two-thirds of the annual growth rate over current baseline estimates. (See Figure 3).

Furthermore, firms that can extend into advising on broader financial topics could increase retention and asset roll-over capture by 30-40% over a 10-year horizon. For one recordkeeper, for example, this would translate to an additional $5 to $7 billion in assets retained over 10 years. (See Figure 4).

Figure 3: 10-Year projected 401(k) plan asset growth



Source: Accenture

Figure 4: An example recordkeeping firm's 10-year asset retention due to increased IRA rollover capture

Source: Accenture

Notes: (A) Assuming a constant 4.6% individual contribution rate with normal participant and salary growth. Does not include broader macroeconomic assumptions such as policy, regulatory, and major demographic shifts, for simplicity. **(B)** Additional 1.1% annual increase in participation due to enhanced engagement and additional 3.7% contribution rate growth due to enhanced engagement; excludes employer match; Note – the percentages for participation increase / contribution increase cannot be summed as they are applied on different baselines. **(C)** 2034E DC Balance assets excludes annual investment of the base asset; **(D)** Assuming a 30-40% incremental capture rate due to enhanced engagement

Realizing the opportunity: How AI and behavioral economics can transform dysfunctional experiences and persistent disengagement

Successfully entering adjacent spaces will require earning participants' trust and permission through an engaging core retirement experience—an area where significant gaps remain. A typical experience of a 401(k) participant often feels stuck in another era: dated interfaces, confusing and often inaccurate do-it-yourself calculators, clunky link-outs to third-party tools and "personalization" that's devoid of any holistic views of income, expenses and savings. In fact, a recent J.D. Power consumer survey found that just 21% of retirement websites and mobile apps live up to customer expectations for a valuable digital experience. And one in five do not meet even basic expectations.[4]

This shortfall has serious human and economic implications. Americans rank retirement among their top 10 stressors — alongside spouse's death, divorce, and job termination.[5]

When you consider the data, it's understandable why:

1. 70% of retirees wish they had started saving earlier[6]
2. 51% of Americans worry that they will run out of money in retirement[5]
3. 41% of U.S. households headed by 35–64-year-olds are projected to face retirement shortfalls[7]
4. A third of U.S. households cannot handle a $400 emergency without borrowing. Early withdrawals (for hardships or other needs) among 401(k) participants has more than tripled since 2018, to 6.9% of plan participants in 2023[8]

"There is such a lack of confidence among certain cohorts and there is a real need for brands like ours to meet people where they are."

Beth Wood
Executive Vice President & Global Chief Marketing Officer,
Principal Financial Group

"Saving for retirement is overwhelming to a lot of people because the topics and tools associated with doing so can seem complicated and overwhelming. As an industry, we don't do a good job of simplifying how we talk about solutions to help people build confidence on these topics."

Farnaz Maters
Chief Marketing Officer, Retirement & Income Solutions,
Principal Financial Group

Sources: **(4)** Retirement Plan Websites and Mobile Apps Not Meeting Customer Expectations for Valuable Digital Experience, J.D. Power Finds - 2024 U.S. Retirement Plan Digital Experience Study | J.D. Power; **(5)** Simply Psychology, Social Readjustment Rating Scale (SRRS) Social Readjustment Rating Scale: Holmes & Rahe Stress Scale; **(6)** Millions of Americans Are Falling Behind on Their Retirement Goals - Millions of Americans Are Falling Behind on Their Retirement Goals | The Pew Charitable Trusts; **(7)** Retirement Savings Shortfalls: Evidence From EBRI's 2019 Retirement Security Projection Model - Retirement Savings Shortfalls: Evidence From EBRI's 2019 Retirement Security Projection Model®; **(8)** Retirement Trends and the Need for Emergency Savings To Reduce Withdrawals -Emergency Savings Fact Sheet 2023

Disengagement is also bad for business. Plan sponsors increasingly prioritize participant experience when selecting administrators,[9] recognizing that better experiences lead to higher employee engagement and financial security. Firms that fail here risk losing to competitors and hindering asset growth, exacerbating fee compression and margin pressures.[10]

Recent advances in AI offer fresh opportunities to enable hyper-personalized experiences on the "frontstage" (what customers see, feel, interact with) and overcome execution challenges on the "backstage" (operational processes, data and technology layers that enable frontstage experiences).

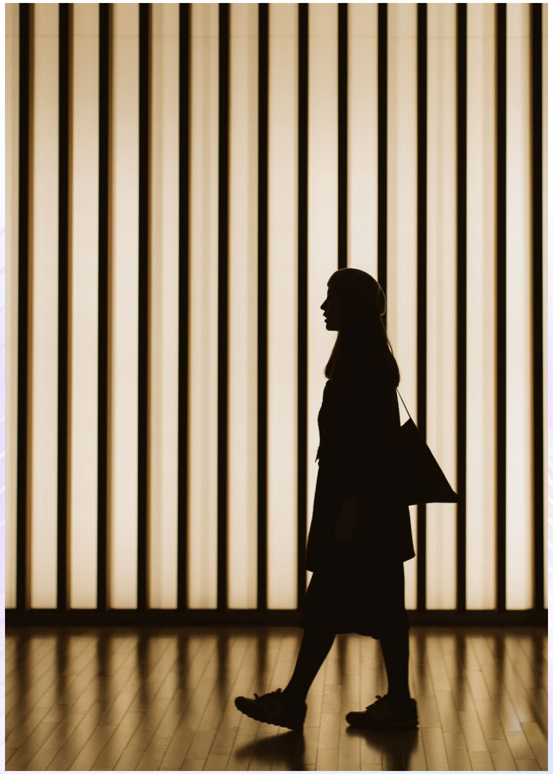
On the frontstage, AI can integrate participant data and behavioral economics to shape experiences that are contextualized to an individual's unique circumstances. Behavioral economics concepts in retirement decisions have already proven impact. For instance, changing 401(k) enrollment from opt-in to opt-out significantly increased participation rates among private-sector workers.[11] Contribution auto-escalation has similarly improved savings outcomes by leveraging inertia and default biases.[12]

"Employers are choosing plan administrators based on what they can do for their participant. The differentiator is the participant experience. If we are going to be competitive, we must have a consumer experience that rivals non 401(k) record keeping consumer experiences. This is where the game will be won and lost"

Dave Gray
Executive Vice President for Enterprise Solutions, Empower

"There's no debate from me, around the impact we can have, if we can truly get people's attention long enough to engage. There's a knowledge and an attention gap"

Eric Stevenson
President, Nationwide Retirement Solutions



Sources: **(9)** Top considerations for defined contribution plan sponsors in 2025 - Top considerations for DC plan sponsors in 2025; **(10)** Empower: Resilient retirement savers shifting focus to short-term needs - Empower: Resilient retirement savers shifting focus to short-term needs | Empower; **(11)** Influencing Retirement Savings Decisions with Automatic Enrollment and Related Tools - nber.org/reporter/2024number3/influencing-retirement-savings-decisions-automatic-enrollment-and-related-tools; **(12)** Using Auto-Enroll to Improve Participant Outcomes - 2016-06 NAGDCA Auto-Enroll FINAL.pdf;

AI's ability to consider context and generate personalized guidance using behavioral economics principles can help firms create experiences that guide users to make better decisions within their unique context, by optimizing:

Choice architecture: How choices are presented (defaults, categories, visual organization). For example, highlighting the most appropriate option for an individual to increase confidence.

Information architecture: How information is presented, using framing, reference points, labeling, and visuals to influence behavior. For example, expressing calorie counts in hours of exercise needed to burn them off could influence healthier eating habits.

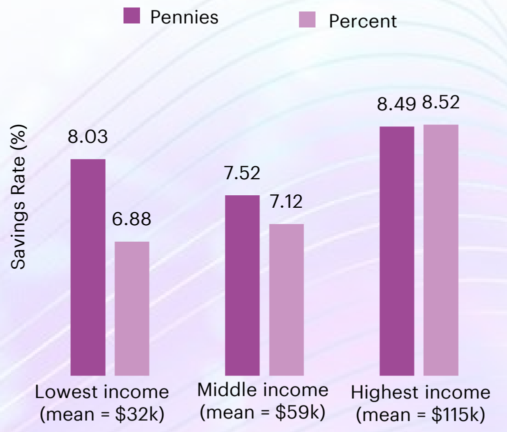
Thinking architecture: Encouraging slower, deliberate thinking for complex or infrequent tasks. For example, using tax checklists to ensure an individual is maximizing all eligible tax deductions, credits and tax-advantaged accounts to reduce their tax bill.

Research by Stephen Shu, this report's co-author, illustrates personalization's potential impact. In one study, reframing emergency savings choice architecture as "$5 per day" rather than "$150 per month" doubled participation among higher earners and increased it more than sixfold among lower earners.[13] (Figure 5). In another study, reframing savings information architecture as "pennies for every dollar earned" rather than "percent of salary" eliminated the savings gaps between lower and higher income groups.[14] (Figure 6).

Figure 5 : Emergency savings & individual differences: percentage of users signing up by income

Source: Hershfield, H.E., Shu, S., & Benartzi, S (2020)[13]

Figure 6: Retirement savings and individual differences pennies framing: Income and savings rates



Source: Shu, S., Hershfield, H. E., Mason, R., & Benartzi, S.[14]

"We've used [behavioral economics principles] pretty extensively...It really requires a deliberate focus to ensure it's done consistently and creates value"

Jessica Saperstein
Chief Customer Experience Officer, Strategic Advisor and Board Member
Former Chief Customer Experience Officer, Voya Financial

Source: **(13)** Hershfield, H.E., Shu, S., & Benartzi, S (2020). Temporal reframing and participation in a savings program: a field experiment. Marketing Science, 39(6), 1039-1051
(14) Shu, S., Hershfield, H. E., Mason, R., & Benartzi, S., "Reducing Savings Gaps Through Pennies Versus Percent Framing," Shu, Stephen and Hershfield, Hal and Mason, Richard and Benartzi, Shlomo, Reducing Savings Gaps Through Pennies Versus Percent Framing (January 12, 2022)

On the backstage, AI can address a myriad of operational challenges ranging from unifying participant and plan data models to facilitating faster, more cost-effective transitions from legacy systems to cloud-based solutions.

Before getting into the specifics of how AI can help, let's consider the future possibilities through the eyes of Lisa, a character we created to articulate a vision for how AI and behavioral economics could work together to deliver hyper-personalized experiences.

Imagining the future: Meet Lisa

Consider the journey of Lisa, a 41-year-old working mother of two teenagers. As an office manager for a multi-state law firm, Lisa embodies the competing priorities many Americans face:

"Between work, managing my kids' activities, planning for their college, and everyday expenses, retirement feels distant and complicated. I know I should focus on it more, but it's easy to postpone when there are so many immediate demands on my time and money."

Lisa contributes to her 401(k) but hasn't increased her contribution in two years. She occasionally checks her balance but rarely makes changes. Her experience likely represents millions of Americans who know retirement planning matters but struggle to make it a priority amid life's complexities.

Next, let's imagine how Lisa's retirement journey could transform through AI-powered, situationally personalized experiences across three scenarios: near-term, medium-term and longer term.

Near-term scenario

Celebrating a raise

Lisa recently received a small salary raise, but she hasn't increased her 401(k) contributions. AI detects this and sends her a personalized, behaviorally framed message:

"Lisa, congrats on your recent raise! 🎉 If you increase your 401(k) savings by just 2% today, you'll boost your projected retirement balance by $75,000—without even noticing a difference in your paycheck. Most people like you do this within 30 days of a raise. Tap below to update your savings."

How behavioral science helps:

- Uses timing (right after raise) to make Lisa receptive
- Applies social proof ("people like you…") to encourage action

How AI helps:

- Detects changes across multiple data signals
- Determines appropriate next action; generates outbound nudge
- Provides one-click actions to overcome inertia

Result:

Lisa clicks the link and **effortlessly increases her contribution from 6% to 8%**, moving closer to financial security.

Medium-term scenario

Emergency savings guidance

AI detects that Lisa borrowed from her 401(k) last year for an emergency car repair. This time, instead of passively allowing another loan, AI intervenes:

"Lisa, we noticed you tapped your retirement savings last year for an emergency. To avoid this, let's create a small emergency fund. If you auto-save $5 a day into your emergency account, you'll have $1,825 by year's end—enough to cover most unexpected costs. Want to set it up now?"

How behavioral science helps:

- Uses loss aversion (reminds of past financial stress)
- Suggests a low-friction action (small contributions)

How AI helps:

- Detects signals proactively / raises them in a timely fashion
- Determines appropriate next action; generates outbound nudge
- Provides one-click actions to overcome inertia

Result:

Lisa agrees to auto-save, **reducing her need for future 401(k) withdrawals**.

Longer-term scenario

Refinance to retire better

Since Lisa purchased her home seven years ago, interest rates have dropped, and her credit score has improved. Lisa's always-on, hyper-personalized Agentic AI-based coach detects this and sends her a nudge:

"Lisa, interest rates have dropped, and based on your mortgage balance and credit score, you might qualify for a 3.2% rate. If you refinance now, you can reduce your monthly mortgage payment by $500—without extending your loan term! And redirecting that $500 per month into your 401(k) can grow your retirement savings by $200,000+ by the time you retire."

How behavioral science helps:

- Uses framing to go beyond just a rate drop and focuses on $500 in newfound cash, $200K+ wealth
- Uses defaults to recommend best use of the savings (moving to a 401(k)), rather than burdening Lisa

How AI helps:

- Detects changes across multiple data signals (mortgage, credit score, etc.)
- Provides one-click actions to overcome inertia

Result:

Lisa reduces her mortgage payment by $500/month, painlessly redirects that **savings into her 401(k), and increases her retirement balance.**

While these scenarios represent substantial evolution from today's experiences, their plausibility is informed by how innovative firms in other sectors are leveraging AI-powered experiences to make complex tasks easier.

Intuit, for example, aims to make filing taxes easier than ever with its new Intuit Assist Gen-AI powered assistant within TurboTax.[15] Similarly, Robinhood's recently announced AI Agents, such as Cortex AI Research Assistant, promise to make even advanced trading strategies more approachable.[16]

"I envision hyper personalized retirement plans unique to each person. AI should select investments for me that go beyond funds, to ETFs, stocks, bonds, even private equity, and digital assets. And it ought to tie into my financial context and goals to provide me personalized next steps, such as putting money in my HSA account"

Dave Gray
Executive Vice President for Enterprise Solutions, Empower

"The next frontier we're focused on is taking actions on people's behalf. Success isn't just how much we educate someone, but rather, what share of their wallet do they entrust us with, so we can act on their behalf, while informing and checking with them. This is where we will be in five years."

Sina Chehrazi
Chief Executive Officer
Nayya

Source: **(15)** Intuit Investor Relations - Introducing Intuit Assist: The Generative AI-Powered Financial Assistant for Small Businesses and Consumers :: Intuit Inc. (INTU) ;**(16)** PYMNTS - Robinhood Adds AI-Powered Summaries to Investing Assistant

Overcoming barriers: How to deliver hyper-personalized experiences and transformational outcomes

Despite compelling opportunities, leaders interviewed face significant, intertwined barriers to realizing this future vision. Overcoming these barriers will require recognizing experience as a growth driver and a source of competitive advantage, and a C-suite level mandate to establish it as a top strategic priority. Given the substantial collaboration required across product, technology, data, marketing, design, innovation and operations to actually transform the experience, it is simply too complex to pull off in the absence of a firmly established enterprise level strategic priority.

Once leaders of the organization are committed to such a goal, retirement and recordkeeping firms need to focus on addressing six key areas:

1. **Fragmented data**
2. **Experience investments constraints**
3. **Operating model constraints**
4. **Behavioral design capabilities**
5. **Aging digital core**
6. **Responsible AI governance**

1 Fragmented data

Challenge: The retirement ecosystem's numerous stakeholders (employers, payroll providers, asset managers, advisors) often maintain participant data in fragmented data sets. Variations in data-sharing practices, inadequate validation, integration difficulties, and insufficient contextualization limit firms' ability to understand participants fully and act decisively.

How to overcome: **Unify and enrich participant data into a single source of truth**. Accomplishing this will requires firms to:

a. **Move participant and plan data to cloud-based platforms** and establish robust data governance (ensuring accuracy, timeliness, and privacy). Many firms are already well on their way on this journey.

b. **Leverage AI to accelerate unified participant profiles** by intelligently matching and merging data across legacy systems, third-party administrators, and acquisition-related platforms without requiring complete system overhauls.

c. **Automate data quality management** by deploying machine learning models to continuously detect data anomalies, inconsistencies, and missing values across participant records, automatically remediating common issues.

d. **Deploy the extraction and synthesizing capabilities of generative AI to extract insights from unstructured data**, such as benefits documents, participant communications, and call center transcripts, to enhance structured data profiles,

e. **Augment data where possible** – for instance, incorporating external data such as credit profiles, spending data, etc., while ensuring proper consent and adherence to ethical standards,

"In this sector, all of the data that you need in order to truly unlock any type of personalization and behavior encouragement lives together in exactly zero places"

Sina Chehrazi
Founder & Chief Executive Officer, Nayya

"To get the [growth] flywheel moving, you don't have to solve all your data problems on day one, but you do need two things: a unified customer profile that is the source of truth, and plan rules, both in a cloud based, responsive environment. That is when AI can be used to make recommendations that are accurate, relevant and viable"

Dave Gray
Executive Vice President for Enterprise Solutions, Empower

2 Experience investment constraints

Challenge: Recordkeepers are caught in a challenging cycle – years of underinvestment have made modernizing participant experiences expensive, while generating returns from an increasingly commoditized recordkeeping business have gotten harder. As a result, firms limit experience modernization investments, which invariably impedes their growth with plan sponsors and makes it harder to reinvest in the business. Expanding into adjacent areas like advisory and wealth management to better monetize participants is one way out of the cycle, but firms might struggle against established incumbents with advanced experience capabilities.

How to overcome: Reimagine participant experiences through an AI-native lens and clarify the business case for experience as a growth driver. Recordkeepers often invest narrowly to fix immediate experience issues or to drive cost reductions. Fixing what's broken is important, but to leverage experience as a source of competitive advantage, firms should concurrently reimagine participant experiences with an explicit focus on identifying how AI can enable hyper-personalized experiences on the "frontstage" and overcome execution challenges on the "backstage." Specifically, firms need to:

a. Reimagine participant journeys with an AI-native lens, identifying multi-stakeholder experiences and 'moments-that-matter' that not only unlock substantial value for participants but also create a compelling proposition to win more with plan sponsors, consultants and brokers.

b. **Establish a robust experience portfolio management capability**, breaking down aspirational journeys into 'shovel ready' work with clear business cases, demonstrating customer value, economic impact and technical feasibility. Balance the mix of work in portfolios to serve immediate needs that drive incremental savings, with longer term bets that could generate exponential returns.

c. **Integrate frontstage experiences with backstage enablers** across people, process, technology and data, ensuring AI is considered deeply in overcoming various challenges more efficiently, such as the ones described earlier in this section.

d. **Proactively identify opportunities to capture additional participant data** across the reimagined journey, capturing zero-party (participant-provided, e.g., preferences) and first-party (interaction-based, e.g., transaction history) data through intentional value exchanges.

> *"If you're in a competitive, low growth, tight margin business, and you struggle with having enough dollars to do basic near-term things, then less proven, uncharted, future oriented things are just not going to get the same play."*
>
> **Jessica Saperstein**
> Chief Customer Experience Officer, Strategic Advisor and Board Member
> Former Chief Customer Experience Officer, Voya Financial

3 Operating model constraints

Challenge: Organizational structures based on product lines often hinder the expansive cross-functional collaboration required to transform the participant experience. Within product-oriented business units, product teams' disproportionate influence could marginalize customer-focused functions like insights, service design, and marketing, leading to product-centric rather than customer-centric experiences. Across product-oriented business units, silos typically prevent opportunities to combine complementary offerings (e.g., combining retirement with insurance or advice) and impede optimal allocation of talent to the most consequential challenges.

How to overcome: **Adapt the operating model to create windows of collaboration around critical participant journeys.** Executives interviewed recognize that dismantling decades-old organizational silos is not often viable. However, firms should create deliberate windows of collaboration between them. By orienting around critical participant journeys – and establishing shared accountability for measurable outcomes – firms can motivate collaboration across the organization and deliver cohesive experiences that earn participants' trust and position firms to broaden their relationship. Specifically, firms should:

a. **Align work, teams and funding around critical journeys** that significantly impact participant satisfaction and can create competitive advantage for the firm when executed well.

b. **Establish shared accountability and incentives for journey-specific outcomes**, making participant journeys – not individual product features – the focal point of cross-functional and cross-business-unit collaboration.

c. **Clarify roles and codify collaborative ways of working**, ensuring product, experience, and technology teams function as equal partners in designing and delivering key journey experiences.

4 Behavioral design capability

Challenge: While many retirement recordkeepers consider behavioral science an important capability in architecting experiences, few have gone beyond ad hoc teams and a 'coalition of the willing' to establish formalized design, test and iterate capabilities. As a result, most efforts to incorporate behavioral science concepts within experience tend to occur in narrow applications and without rigorous processes to ensure they can be effective, scalable, and compliant with the firm's standards.

How to overcome: **Establish a behavioral design test, learn & iterate capability.** To harness behavioral science as a force multiplier that can leverage AI to deliver hyper-personalized experiences and strong outcomes, firms need to:

a. **Create a design framework for behavioral interventions** that can scale across prioritized areas of the participant experience. Generate a pipeline of behavioral interventions, nudges, information and choice framing ideas.

b. **Build a scaled test-and-iterate capability** that allows for a portfolio of large-scale multivariate A/B tests across the experience. The capability must be able to conduct not just a handful, but hundreds of tests each year.

c. **Establish measurement frameworks that quantify behavior change**, so that interventions go beyond intuitive design to evidence-based approaches that consistently improve outcomes.

d. **Curate a portfolio of behavioral interventions with proven efficacy** that can be embedded within a reimagined experience.

e. **Over time, integrate behavioral expertise into digital product teams** rather than isolating it exclusively within specialized groups.

> *"The learning for our industry is to test everything. The difficulty of course is to test live, in the product, and so we're establishing ways to do testing on the side."*
>
> **Fraser Wiswell**
> Head of Global Participant Outcomes, Manulife

5 Aging digital core

Challenge: Many recordkeepers rely on outdated mainframe systems incapable of real-time interactions, inflexible to necessary updates, and difficult to integrate with modern applications. The perceived complexity and cost of modernization often paralyze progress.

How to overcome: **Strengthen the digital core, using AI-driven modernization.** Investing to modernize technology at a recordkeeping firm can seem overwhelmingly costly and complex. However, as some leaders interviewed concur, firms can sidestep this daunting cost and complexity by more surgically modernizing areas of their stack that enable the participant experience, and by leveraging the latest AI-powered tools to substantially reduce the costs of doing so.

AI could help bring the costs of modernizing mainframe-based systems down significantly over time by introducing automation in four key areas:

a. **Code analysis & refactoring**: AI can substantially reduce manual effort in understanding large, complex, poorly documented codebases by automatically analyzing legacy code to map dependencies, identify dead code, and suggest refactoring.

b. **Code translation**: AI can accelerate re-platforming efforts and reduce human translation errors by helping convert legacy languages (e.g., COBOL) to modern languages (e.g., Java, C#, or Python) using large language models (LLMs) trained on paired code.

c. **Test case generation & regression testing**: AI can significantly shorten the quality assurance cycle while also improving test coverage during migrations by auto-generating test cases and identifying high-risk areas during modernization.

d. **Data extraction & normalization**: AI can help accelerate data migration while ensuring data integrity by identifying and extracting data patterns from various legacy databases and map them to modern relational databases.

> *"You can actually use AI, in a lot of cases, to cover up some of the issues that come with the usage of mainframes that a lot of firms are still on. I think this is very achievable"*
>
> **Todd James**
> Founder and CEO of Aurora Insights, and former Chief Data & Technology Officer at 84.51 (Kroger) and SVP, Data, Analytics & Automation at Fidelity

Source: **(17)** Mainframe Services | Cloud | Accenture

6 Responsible AI governance

Challenge: While many firms have established responsible AI principles, these alone are often inadequate in ensuring adherence to ethical and legal standards. As a result, growth in use of AI technologies can also grow the scale and expanse of risk firms may be exposed to.

How to overcome: **Establish frameworks and governance for responsible AI.** To operationalize adherence to responsible AI principles, firms need to go a few steps further:

a. **Identify where AI is being considered or used**: Establish a comprehensive view of where and how AI is being considered and/or deployed across the frontstage and backstage enablers for experience.

b. **Enable systemic responsible AI testing**: Establish systematic review processes and testing protocols to ensure all AI components can be tested for human impact, fairness, explainability, transparency, accuracy and safety. Use leading responsible AI tools and technologies to mitigate any problems.

c. **Establish ongoing monitoring and compliance mechanisms**: Consistently monitor AI systems and oversee responsible AI initiatives while executing mitigation and compliance actions.

d. **Consider workforce impact, sustainability, privacy and security**: A responsible AI compliance program will also need to engage cross functionally to address workforce impact and compliance with laws, sustainability, privacy and security programs across the enterprise.

> *“We allocate a specific portion of our budget to innovation, and GenAI has been identified as a key focus for future investment”*
>
> **Dennis Elliott**
> Head of Retirement Plan Services Products & Platforms, T. Rowe Price

Taking action: Where to begin

Despite these challenges, leaders we interviewed are optimistic about the future. They recognize the substantial competitive advantage that a modern experience can bring and are increasingly sanguine about emerging AI capabilities and the potential to overcome longstanding barriers. They also see an expanded role for their firms: **instead of serving merely as custodians of accounts, they envision becoming trusted partners in each participant's financial journey**.

While AI is no silver bullet, these leaders are not wrong in their optimism. According to experts within Accenture's AI Refinery, a partnership with NVIDIA focused on deploying industry-specific AI Agents, AI is maturing rapidly and is already proving to radically reduce cost, time and complexity associated with modernizing the technology and data stack.

To recap, firms that aspire to capitalize on the opportunities brought forward with AI to transform the participant experience need to mobilize against 6 key actions:

1. Clarify the economic case for experience as a strategic growth driver and take an AI-native approach to reimagining the participant experience.

2. Invest in targeted ways to unify participant and plan data in responsive, cloud-based systems.

3. Refine the operating model to open windows of collaboration across businesses and functions and codify ways of working.

4. Establish a behavioral design test, learn and iterate capability.

5. Invest in targeted ways to strengthen their digital core, drawing on the latest AI powered tools to overcome long-standing barriers at substantially lower cost, faster timelines.

6. Establish or enhance responsible AI governance, particularly focused on systemic responsible AI testing for human impact, fairness, explainability, transparency, accuracy and safety.

We expect that over the next three years, the most successful retirement and recordkeeping firms will create experiences that blend technology and human expertise, using AI to scale personalization while maintaining the trust and empathy that retirement decisions require.

Those who successfully reimagine the retirement experience would not only secure their competitive position but also help fulfill the fundamental promise of retirement systems: providing security and dignity in later life for millions of Americans.

Authors

Saurabh Wahi – *Managing Director, Accenture Strategy*
Saurabh Wahi | LinkedIn

Saurabh leads growth strategy and transformation within Accenture's Strategy practice. He advises clients on taking a customer-centered view to reimagining their growth aspiration, reinventing their end-to-end customer experience and offers, and helping execute on these moves to deliver in-market impact. Within Accenture's Strategy practice, Saurabh also serves as the *AI-Led Reinvention* Captain for the Insurance sector.

Ravi Malhotra – Senior Managing Director, Accenture Strategy, Global Insurance Lead
Ravi Malhotra | LinkedIn

Ravi leads Accenture's global Insurance Strategy practice, advising top insurers on strategy development, operating model design, and transformation planning. He has worked across multiple industries, with a primary focus on financial services and delivering growth and performance improvement.

Stephen Shu, PhD – *Professor of Practice of Behavioral Economics, Cornell University*
Steven Shu, PhD | LinkedIn

Stephen is a Professor of Practice of Behavioral Economics at Cornell University, where he also serves as Academic Director for the MPS and CEMS programs within the Charles H. Dyson School of Applied Economics and Management. He has over 30 years of industry experience focused on behavioral finance and innovation in the commercial sector.

Contributors

Tim Hoying – *Managing Director, Accenture Strategy*
Tim is the Strategy Lead for Accenture's Retirement Practice in North America. With 30+ years of consulting experience, he has a profound understanding of retirement recordkeepers' challenges and growth opportunities. Tim has published studies on behavioral economics, customer experience, and retirement programs for small businesses.

Dean Edwards – Managing *Director, Capital Markets*
Dean is the Industry Lead for Accenture's Retirement Practice in North America with over 20 years of experience in asset management, wealth management, and retirement recordkeeping. His diverse skill set includes strategic growth planning, operating model transformation, sales and relationship management and digital experience.

Anand Premsundar – *Managing Director, Global Head of Data & AI for Financial Services*
Anand is the Chief Data Scientist for Accenture's Financial Services Group in North America. Anand has over 20 years of experience managing and delivering cross-functional teams across Consulting and Information Technology. His specialties include cognitive AI, bigdata analytics, machine learning, predictive models, advanced visualization, analytics data architectures & application landscapes.

Mary Chandler Butler - *Management Consulting Senior Analyst, Accenture*
Mary Chandler combines 2 years of strategy and management consulting experience with 3.5 years in the insurance industry, specializing in initiatives that drive transformational growth.

Bruce Hentschel – *Accenture Luminary | Hentschel Consulting, LLC*
Bruce is a former senior executive at Principal Financial Group, where he led global strategy and innovation, working with leadership to drive growth and enterprise transformation. With over 40 years in financial services, he is widely recognized for his board service, thought leadership, and industry contributions.

Acknowledgements

We are grateful to the following senior executives for providing their valuable insights, throughout the development of this white paper

Dave Gray – *Executive Vice President for Enterprise Solutions, Empower*
Dave is a retirement services executive with over 24 years of experience, focusing on driving innovation, platform modernization, and customer-focused product strategy within the industry.

Beth Wood – *Executive Vice President & Global Chief Marketing Officer, Principal Financial Group*
Beth is a marketing leader with over 30 years of experience driving customer-centric innovation, digital transformation, and impactful storytelling across the financial services, healthcare, and consumer goods industries.

Farnaz Maters – *Chief Marketing Officer, Retirement & Income Solutions, Principal Financial Group*
Farnaz brings deep expertise in the financial sector, and is known for driving integrated marketing strategies, business growth, and client-focused asset management solutions across leading global firms.

Eric Stevenson – Former *President, Nationwide Retirement Solutions*
Eric is a financial services leader with over 20 years of experience guiding large teams, driving retirement readiness for millions of participants, and delivering customer-focused financial solutions through a collaborative and growth-oriented approach.

Jessica Saperstein - *Chief Customer Experience Officer, Strategic Advisor and Board Member*
Jessica is a transformative marketing and customer experience leader with a proven track record of driving growth, transformation, and client-centric strategies across industries including financial services, healthcare, and insurance. Jessica recently served as the Chief Customer Experience Officer at Voya Financial.

Sina Chehrazi – *Chief Executive Officer, Nayya*
Sina is a healthcare and financial technology innovator with a background in law, data, and business, known for founding Nayya to empower consumers with personalized, data-driven tools for making smarter benefits and healthcare decisions.

Todd James – *Founder and CEO of Aurora Insights, and former Chief Data & Technology Officer at 84.51 (Kroger) and SVP, Data, Analytics & Automation at Fidelity*
Todd is a data and technology leader with deep expertise in AI, analytics, and digital transformation, known for building enterprise-scale capabilities and driving innovation across retail and financial services sectors.

Fraser Wiswell – *Head of Global Participant Outcomes, Manulife*
Fraser brings extensive experience in retirement and financial services. Over the past 15 years, he has held key leadership roles across product, strategy, transformation, and business planning.

Dennis Elliott – *Head of Retirement Plan Services Products & Platforms, T. Rowe Price*
Dennis leads product and platform strategy for Retirement Plan Services at T. Rowe Price, bringing deep experience across product development, client experience, digital transformation, and marketing since joining the firm in 1998.

Jillian Verspyck – Managing *Director, Bank of America*
Jillian is a marketing leader with over 25 years of experience in strategic marketing, advertising, and communications, with expertise in brand strategy, media planning, and leveraging consumer insights to drive results.

Jeff Cimini – *Chief Transformation Officer & Head of Planning, Performance & Transformation, Principal Financial Group*
Jeff is a transformation and planning expert with over 35 years of experience in the financial services industry, known for driving strategic performance, operational excellence, and business growth.

Sources

1) ICI - Release: Quarterly Retirement Market Data, Second Quarter 2025 | Investment Company Institute
2) Independent Directors Council - 401(k) | Independent Directors Council
3) Accenture analysis based on Cerulli Associates, The Cerulli Report | U.S. Retirement Markets (2023) - Reinventing Retirement Recordkeeping Report | Accenture
4) Retirement Plan Websites and Mobile Apps Not Meeting Customer Expectations for Valuable Digital Experience, J.D. Power Finds - 2024 U.S. Retirement Plan Digital Experience Study | J.D. Power
5) Simply Psychology, Social Readjustment Rating Scale (SRRS) Social Readjustment Rating Scale: Holmes & Rahe Stress Scale;
6) Millions of Americans Are Falling Behind on Their Retirement Goals - Millions of Americans Are Falling Behind on Their Retirement Goals | The Pew Charitable Trusts
7) Retirement Savings Shortfalls: Evidence From EBRI's 2019 Retirement Security Projection Model - Retirement Savings Shortfalls: Evidence From EBRI's 2019 Retirement Security Projection Model®
8) Retirement Trends and the Need for Emergency Savings To Reduce Withdrawals - Emergency Savings Fact Sheet 2023
9) Top considerations for defined contribution plan sponsors in 2025 - Top considerations for DC plan sponsors in 2025
10) Empower: Resilient retirement savers shifting focus to short-term needs - Empower: Resilient retirement savers shifting focus to short-term needs | Empower
11) Influencing Retirement Savings Decisions with Automatic Enrollment and Related Tools - Influencing Retirement Savings Decisions with Automatic Enrollment and Related Tools | NBER
12) Using Auto-Enroll to Improve Participant Outcomes - 2016-06 NAGDCA Auto-Enroll FINAL.pdf
13) Hershfield, H.E., Shu, S., & Benartzi, S (2020). Temporal reframing and participation in a savings program: a field experiment. Marketing Science, 39(6), 1039-1051
14) Shu, S., Hershfield, H. E., Mason, R., & Benartzi, S., "Reducing Savings Gaps Through Pennies Versus Percent Framing," Shu, Stephen and Hershfield, Hal and Mason, Richard and Benartzi, Shlomo, Reducing Savings Gaps Through Pennies Versus Percent Framing (January 12, 2022) - Reducing Savings Gaps Through Pennies Versus Percent Framing by Stephen Shu, Hal Hershfield, Richard Mason, Shlomo Benartzi :: SSRN
15) Intuit Investor Relations - Introducing Intuit Assist: The Generative AI-Powered Financial Assistant for Small Businesses and Consumers :: Intuit Inc. (INTU)
16) PYMNTS - Robinhood Adds AI-Powered Summaries to Investing Assistant
17) Mainframe Services | Cloud | Accenture

About Accenture

Accenture is a leading global professional services company that helps the world's leading businesses, governments and other organizations build their digital core, optimize their operations, accelerate revenue growth and enhance citizen services—creating tangible value at speed and scale. We are a talent- and innovation-led company with approximately 779,000 people serving clients in more than 120 countries. Technology is at the core of change today, and we are one of the world's leaders in helping drive that change, with strong ecosystem relationships. We combine our strength in technology and leadership in cloud, data and AI with unmatched industry experience, functional expertise and global delivery capability. Our broad range of services, solutions and assets across Strategy & Consulting, Technology, Operations, Industry X and Song, together with our culture of shared success and commitment to creating 360° value, enable us to help our clients reinvent and build trusted, lasting relationships. We measure our success by the 360° value we create for our clients, each other, our shareholders, partners and communities.

Visit us at **www.accenture.com**