
# AI-Driven Big Data Transformation of DC Pensions

**A Comprehensive Analysis**

**5 July 2025**



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## EXECUTIVE SUMMARY


UK defined contribution (DC) pension providers are at a strategic crossroads. New regulations – from the Financial Conduct Authority's **Advice-Guidance Boundary Review (AGBR)** to the **Consumer Duty**, **Pensions Dashboards**, and impending **decumulation support duties** – are raising the bar for member outcomes and oversight. Providers must evolve beyond one-size-fits-all approaches. Yet legacy client segmentation and data silos limit their ability to upsell services, retain retiring members, and improve outcomes. Key pain points include:

- millions of disengaged savers (over **80% of assets sit in default funds**),
- **3.3 million "lost" pension pots** worth ~£31 billion lying unclaimed, and
- low member understanding (nearly **50% don't know how their pension is invested**).

The **cost of inaction** is mounting – in forgone fees from lost business, higher admin costs, and rising compliance risks if member outcomes fall short.

This report makes the case for **AI-driven member segmentation** as a transformative solution. By leveraging richer "soft" indicators – from online behaviour and engagement patterns to life stage cues and financial profiles – providers can overcome data gaps and personalise the member experience. Advanced analytics can cluster members into meaningful segments (e.g. high vs low-engagers, consolidators vs dormant savers, early-retirees vs late-retirees) and predict needs, enabling targeted interventions where they will have the greatest impact. For instance, **Nest** (the UK's largest master trust) has combined first-party data with third-party segmentation techniques to better understand its diverse 13 million members despite patchy employer data. The result: more tailored communications (nudges via a new mobile app, behavioural messaging) that have measurably increased engagement – new members on the app are far likelier to nominate beneficiaries and take positive actions than those using traditional channels.

Our analysis quantifies substantial benefits from AI-led segmentation. Providers can **retain more assets at retirement**, reducing the outflow of members who currently take their pension pots elsewhere or cash out due to lack of guidance. Even a modest 5% improvement in retention of retiring members (e.g. by nudging them into in-scheme

drawdown solutions) could translate into hundreds of millions of pounds in retained assets – worth an extra **£0.5–1 million in annual fee revenue** for a mid-sized provider.

**Upselling and consolidation** opportunities are also significant: intelligent targeting can identify mid-career savers who have capacity to contribute more or those with multiple pots to consolidate, unlocking new contributions and transfers-in. At the same time, better segmentation **cuts cost-to-serve** – focusing expensive call-center support on truly vulnerable or high-value cases, while automating personalized nudges for the majority. Finally, by demonstrating granular understanding of different member cohorts, providers can **satisfy regulators** that they are delivering good value and communications under the Consumer Duty, thus mitigating compliance risks.

To realise these gains, this report presents a detailed **ROI model** and a practical **roadmap**. The ROI model projects both tangible returns (e.g. higher asset retention, increased contribution rates, reduced per-member admin costs) and intangible benefits (compliance risk reduction, brand differentiation). A sample projection shows potential **ROI of 5–8x over 3 years**, given relatively low implementation costs for modern AI tools versus the lifetime value of even a small uplift in member assets. The roadmap lays out a phased plan:

1. **Data audit and enrichment** (e.g. improving contact data and linking multiple accounts per member),
2. **Technology selection** (AI platforms and analytics tools, balancing build vs buy),
3. **Pilot programs** to validate models on a subset of schemes,
4. **Trust-building measures** (governance policies for ethical AI use, transparency with members), and
5. **Scaling up segmentation** across marketing, communications, and product development, with continuous monitoring of outcomes. Each step includes clear deliverables and timelines to ensure a SMART approach – Specific, Measurable, Achievable, Relevant, Time-bound.

**Conclusion:**

In summary, AI-driven segmentation is no longer a “nice-to-have” but a strategic imperative for UK pension providers. It directly addresses today’s regulatory pressures and business challenges by enabling providers to treat members as individuals, not averages. This report urges board directors to champion this transformation with urgency and provides the evidence, case studies, and action plan to do so. Providers that move now will not only avoid regulatory pain but also gain a competitive edge in member loyalty and lifetime value – delivering both **strong commercial results and better retirements for their customers**.

# 1. Introduction

The UK's contract-based DC pension market – encompassing millions of auto-enrolled workplace savers – has grown exponentially over the past decade. Assets have surged, but member engagement and personalization have lagged behind. Most savers join by default via their employer, often **"arm's-length" with little personal decision** in the process. The result is a pervasive inertia: the vast majority of members stick with default investment funds and minimum contributions. Indeed, in large schemes **over 80% of total DC assets remain in the default fund**. While low-cost defaults have improved outcomes for many, this one-size-fits-all approach leaves significant opportunities (and risks) on the table. Members increasingly have diverse careers (multiple jobs and pension pots), varying financial needs, and differing levels of engagement or vulnerability.

At the same time, **the external environment in 2025 is demanding a step-change** in how providers support and protect these members. Regulators and policymakers have introduced a suite of new rules (detailed in Section 2) that fundamentally raise expectations on DC schemes and insurers. Providers are now expected to **proactively deliver good outcomes** for consumers, not merely offer products. The **FCA's Consumer Duty** explicitly requires firms to focus on the end outcomes of retail customers and ensure products, communications, and support meet their needs. Similarly, upcoming rules will push pension providers to help members navigate the complex **decumulation phase** (when drawing retirement income) – historically a weak point resulting in many unadvised, suboptimal decisions.

Yet, most providers today **lack the granular insight** into their customer base needed to meet these higher standards. Traditional segmentation might only distinguish members by broad categories like age or account size, if at all. Data about individual members' wider financial situation or preferences is scant. Communication strategies remain uniform – the same annual statement or generic emails to everyone, which **many members promptly ignore**. Surveys indicate nearly half of employees **don't read or can't recall pension communications** and **29% are unaware their pension is even invested in the market**. This disengagement leads to issues like savers failing to increase contributions over time, failing to consolidate duplicate pots, or making poor retirement choices (e.g. cashing out pensions early). The human cost is lower retirement incomes; the business cost is lost assets under management and weaker client relationships.

This report posits that **embracing data-driven, AI-enabled segmentation** can resolve this disconnect. By intelligently clustering and targeting members based on their behaviours and profiles, providers can deliver the right nudges or support to the right people at the right time – boosting engagement, improving financial outcomes, and creating business value. Crucially, such personalised strategies align directly with regulators' focus on **improving member outcomes and value for money**. What follows

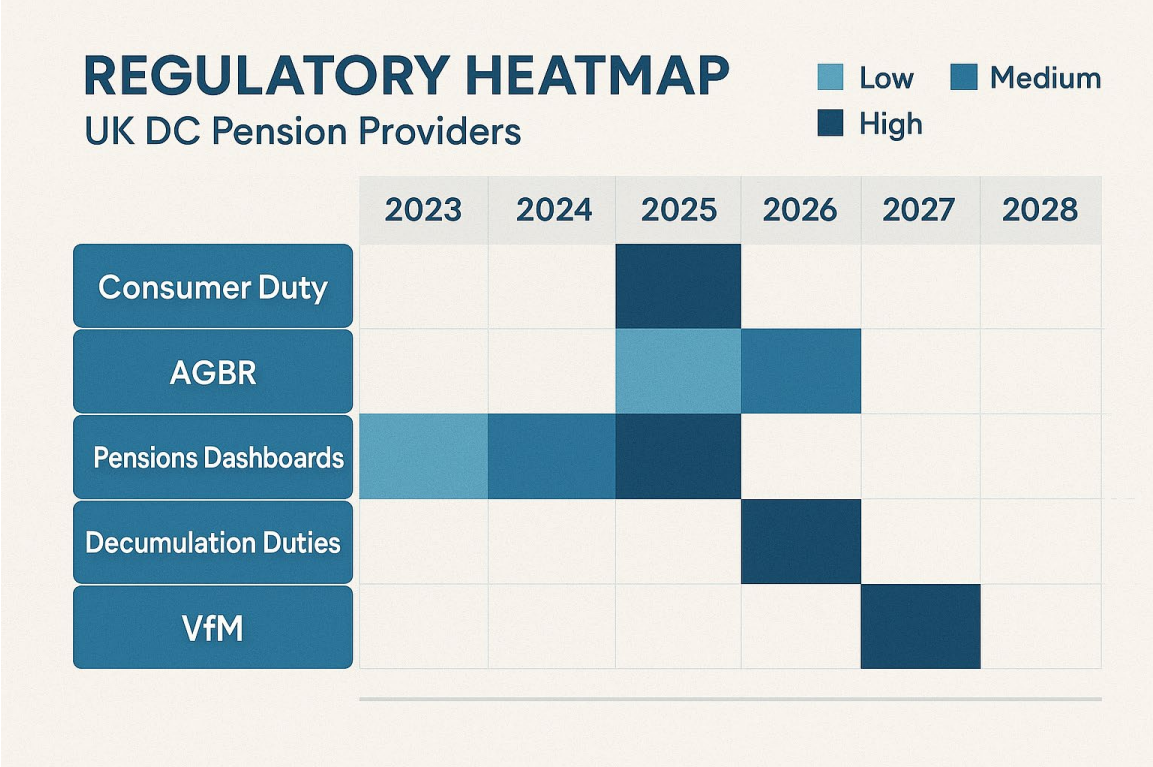
is a deep dive into the evolving regulatory context (Section 2), a diagnosis of current segmentation and data shortfalls (Section 3), and how AI-driven solutions can address them (Section 4). We then quantify the potential upside with hard numbers (Section 5) and showcase real-world examples (Section 6). Finally, we present a practical roadmap (Section 7) to guide providers from today's baseline to a future-state: an organisation that is **member-centric by design**, leveraging advanced analytics ethically and effectively to serve each saver better.

In short, this introduction sets the stage for why board-level action is needed now. DC providers stand at a pivotal juncture: maintain business-as-usual and risk falling foul of new regulations and customer expectations or innovate with AI-driven segmentation to secure both commercial success and improved member welfare. The rest of this report aims to equip decision-makers with the insight and plan to confidently choose the latter.

## 2. Regulatory Demands: A Heatmap of New Obligations

Multiple regulatory initiatives are coming to fruition in 2025, creating a **"perfect storm" of new obligations** for contract-based DC pension providers. Figure 2.1 provides a high-level **regulatory heatmap** summarising the scope, timing, and impact of each major change. Collectively, these reforms push providers to enhance governance, ensure value, and offer greater support throughout the member journey. This section explains each in turn and diagnoses why they heighten the urgency for improved data and segmentation capabilities.

*Table 2.1: A summary "heatmap" of key regulatory changes. Each increases the need for granular member understanding and tailored strategies.*




The regulatory landscape in 2025 unequivocally pushes DC providers toward **greater personalization and accountability for member outcomes**. Whether it's ensuring communications land correctly under Consumer Duty or guiding individual retirement choices under AGBR and decumulation duties, the common thread is the need to know your customers at a deeper level. The next section examines why current segmentation practices fall short of these demands, and how that translates into missed commercial opportunities and heightened risks.

**Figure 2.1 – Regulatory Heatmap for UK DC Providers (2025)**

| Regulatory Initiative | Scope & Timeline | Key Impact on Providers | Segmentation Implications |
|---|---|---|---|
| **FCA Consumer Duty** (in force 31 Jul 2023) | All FCA-regulated retail products; open DC schemes now, closed from 2024. | Must deliver *"good outcomes"* for members in product design, pricing, comms, and support. Requires evidencing outcomes by segment; likely remediation if any cohort fares poorly. | Need to monitor outcomes by member segments (age, pot size, vulnerability, etc.) to identify who isn't benefiting. Tailored communications are required to ensure understanding (e.g. simpler info for low-literacy segment). |
| **FCA AGBR – Targeted Support** (consultation Dec 2024; rules expected 2025) | Contract-based DC providers (insurers, platforms); initial pension focus. | Will permit/expect **personalised guidance** to help non-advised consumers make decisions. Providers can give specific nudges without full advice. Standards to ensure improved decisions. | Providers must identify which members need what nudge (e.g. who is on track vs off-track for retirement). AI segmentation of "who to target, when, and with what message" becomes crucial to deploy support at scale. |
| **Pensions Dashboards** (staging Apr 2025 – Sep 2026) | All UK pension schemes, staged by size. First connections from Apr 2025; full ecosystem live by 2026. | Must supply accurate data on demand to savers via dashboards. Exposes **data quality issues** (lost addresses, duplicates) and allows easy comparison of pots. Likely to spur pot consolidation and competition on fees/performance. | Urgent data audit to fix errors. Use dashboards as a tool: segment members with multiple pots or lost pots and proactively engage them (e.g. "We see you have other pensions – consolidate for easier management"). Without segmentation, risk losing members who discover better options elsewhere. |
| **Decumulation Duties** (expected 2025/26 legislation for trusts; ongoing FCA pathways for contract-based) | Trust-based: new law to ensure support for non-choosing retirees. Contract-based: FCA drawdown pathways already in place, with reviews ongoing. | Providers must *offer guided retirement options* so that members who don't choose still get a suitable outcome. TPR expects innovation in retirement products. Non-compliance could see regulatory action or reputational damage (e.g. schemes seen to "leave pensioners stranded"). | Requires classifying members approaching retirement by needs: e.g. small-pot members (maybe better off taking cash), moderate-pot (drawdown), etc. Also identifying vulnerable retirees for extra help. Segmentation by pot size, health, dependent status, etc., will inform which decumulation pathway to direct each member toward. |
| **Value for Money (VfM) Framework** (consultation 2024) | Joint FCA-TPR plan to standardise metrics on costs, investment performance, and service for DC schemes. | Will likely require publication of comparable data on charges vs outcomes for each scheme. Could force underperforming schemes to improve or consolidate. Trustees/providers must assess VfM across different member groups. | Providers will need data on how different segments fare (e.g. do younger members see proportionate value as older ones?). Poor outcomes for any segment could flag a VfM issue. Segmentation analysis becomes part of governance – ensuring, for example, the default fund works for both low and high earners, etc., or else tweaks are needed. |

- **2.1 FCA Consumer Duty (2023)** – The Consumer Duty is a flagship FCA initiative that took effect on 31 July 2023 for open products. It introduces a new Principle requiring firms to deliver "good outcomes" for retail customers, underpinned by rules across four outcomes:
    - **Products & Services**,
    - **Price & Value**,
    - **Consumer Understanding**, and
    - **Consumer Support**.

  For pension providers, this means far more scrutiny on whether workplace pension products are designed for their target market and whether members actually achieve value. Importantly, firms must **assess and evidence** outcomes on an ongoing basis. In practice, a provider should be monitoring metrics like contribution adequacy, investment performance relative to needs, incidences of poor member decisions, etc., broken down by relevant segments. If certain member cohorts (e.g. older, low-balance members) are consistently ending up with poor outcomes, the firm is expected to identify this and take action. Achieving this clearly demands a robust segmentation approach – you **cannot improve what you don't measure**. Consumer Duty also emphasizes **communications that customers can understand** and **effective support**, which nudges providers toward personalised messaging rather than generic one-size-fits-all content. While trust-based schemes aren't directly subject to Consumer Duty, contract-based providers and insurers are; in practice, even trustees are indirectly affected as many scheme services (administration, investments) come from FCA-regulated firms. In summary, Consumer Duty enforces a culture shift to customer-centricity and data-driven oversight – making segmentation and tailored engagement a regulatory expectation, not just a marketing choice.

- **2.2 FCA Advice-Guidance Boundary Review (AGBR) – Targeted Pensions Support (2025)** – Another major FCA initiative is the AGBR, which aims to bridge the gap between generic "guidance" and full regulated advice for consumers. In December 2024, the FCA published a consultation (CP24/27) on a new category of **"targeted support"** for pensions. This would allow pension providers to give more tailored, actionable help to customers (e.g. suggesting an investment choice or drawdown option) without crossing into giving personal financial advice, which most savers don't pay for. The targeted support regime – expected to become formal rules by late 2025 – squarely focuses on **contract-based DC schemes** as an area where improved guidance at scale is needed. The FCA's vision is to help savers make "effective, timely and properly informed decisions about their pensions" at key moments. To do this at scale, providers will need to **identify which members need what support and when**, for example, pinpointing individuals approaching

retirement who haven't engaged with their options, or younger members on track to under save. This again is a call for sophisticated segmentation and analytics. The AGBR proposals also come with conduct standards to ensure support results in **better outcomes**. In practice, if a provider can't differentiate a disengaged, at-risk member from an engaged one, it can't effectively deploy targeted interventions. AGBR therefore creates both permission and pressure for providers to use data (responsibly) to guide members. Strategically, it's an opportunity: those who build AI-driven segmentation to deliver personalised nudges will be best placed to comply and to capture customers who otherwise might drift away with poor decisions.

- **2.3 Pensions Dashboards (Staging 2025–2026)** – The long-awaited Pensions Dashboards are a government-backed project to let individuals view all their pension pots (state, DB, DC, personal) in one place online. After some delays, **mandatory staging is now underway from April 2025**, starting with the largest DC schemes. By September 2026, virtually all pension providers and schemes must be connected and supplying data. For contract-based providers, this means they must ensure every member's data (personal details, pot values, etc.) can be **accurately pulled by the dashboard**. The immediate operational challenge is data quality – dashboards effectively shine a light on any gaps (e.g. missing addresses or wrong dates of birth will result in failed matches). Providers have been cleaning records in preparation, but those with historically poor data could face reputational damage or even enforcement if they fail to connect on time. Beyond compliance, the dashboards radically increase transparency and portability of pensions. Savers will more easily discover forgotten pots and compare fees and performance. This intensifies competition: engaged users might consolidate away from higher-cost or lower-performing providers. Conversely, providers with strong offerings could attract roll-ins. Either way, dashboards make **member behaviour less predictable** – a new variable that providers should respond to with smart analytics. For example, a provider could use dashboard data (once available) to identify members with multiple small pots elsewhere and proactively encourage consolidation into one pot (ideally theirs). Without such segmentation, a provider might passively lose accounts to a competitor's consolidator. Additionally, dashboards underscore the issue of **multiple small pots** (the UK has an estimated 20 million deferred DC pots under £10k ). Regulators (DWP/TPR) are considering default consolidation solutions for these. Providers who can identify "serial small pot holders" and offer them solutions first will stay ahead of any mandated fix. In summary, Pensions Dashboards raise the data management bar and will catalyse member movement; providers need advanced data capabilities to turn this from a threat into an opportunity.

- **2.4 Decumulation Duties and Pathways** – A sea-change is occurring in expectations around how pension schemes support members transitioning into retirement (**"decumulation"**). In trust-based schemes, the upcoming Pension Schemes Bill will impose new duties on trustees to **support members as they move into retirement**, ensuring even those who don't actively choose an option end up with a sustainable outcome. This is anticipated to be legislated by 2025/26 with guidance to follow. The aim is that every DC saver is offered a decent pathway to an income, whether via in-scheme drawdown, an annuity, or a partnership with a third-party provider. In essence, "doing nothing" at retirement should no longer leave someone high and dry. The Pensions Regulator (TPR) has signalled that **decumulation innovation is a priority** for the industry.

  On the contract-based side, the FCA has already implemented **"investment pathways"** for drawdown (since 2019), which require providers to offer ready-made investment solutions based on four broad retirement objectives. However, uptake of guidance remains an issue – FCA found many people still make withdrawals without fully understanding longevity risk or leaving cash idle. We also see in industry data that while **drawdown is now the most popular choice** for DC retirees (far outpacing annuities) , many are unsure how to manage it. For providers, there is a clear incentive: if they can keep a member's pension invested in retirement (providing income drawdown or other solutions), they retain the assets rather than losing them when the member transfers out or takes cash. The new duties mean providers must actively engage and possibly segment their retiring members to offer appropriate options. For example, members with very small pots might need different support (e.g. guidance to combine pots or take cash cautiously) versus those with large pots (who might benefit from drawdown or partial annuitisation).

  An **Outcomes-focused segmentation** is needed to implement decumulation pathways effectively – grouping members by characteristics like pot size, other incomes, health, etc., to recommend suitable retirement strategies. International trends reinforce this: in Australia, the **Retirement Income Covenant (2022)** now compels super funds to develop retirement income strategies for members, effectively requiring personalised solutions in decumulation, and Australian funds hold over **$426 billion in retirement products** already as they adapt. Similarly, Canadian regulators via CAPSA have emphasized that the purpose of DC plans is delivering lifetime income, urging plan sponsors to focus on retirement outcomes and member engagement to achieve that.

  The direction of travel is unmistakable – UK providers must integrate decumulation-focused thinking into member segmentation. Those that can identify, for instance, a segment of "at-risk unadvised retirees" and provide targeted support (perhaps a guided drawdown product or a simplified advice offer) will both meet their duties and preserve business.

## 3. Segmentation and Data Challenges in DC Schemes

Despite servicing millions of members and managing vast sums, many UK pension providers operate with surprisingly **rudimentary segmentation and data practices**. This section diagnoses the status quo: what data providers typically hold (and lack), how they segment (if at all), and how these limitations hinder upselling, member retention, and outcomes. We also quantify the scope of problems like disengagement and multiple small pots to underscore the **cost of inaction**.

### 3.1 Limitations of Current Data & Member Segmentation

Most contract-based DC providers historically have limited direct interaction with individual members. The primary touchpoints are enrolment (often via bulk employer data) and annual statements. As a result, the data on each member is often **minimal**, typically including: name, date of birth, address, National Insurance number, current fund value, contribution level (often just the auto-enrolment minimum), and maybe the default investment option they're in. Providers may not reliably know members' personal email or phone (especially if enrolment was done via employers' bulk uploads), nor their current employment status if they've left the original sponsoring employer. **Data quality issues** abound – Nest's Member Director noted that employer-provided data is often incomplete or wrong "from day one," with errors like misspelt names that cause compounding issues later. Members frequently change jobs or addresses without updating the pension provider (especially if they were auto-enrolled and then left), leading to **duplicate accounts and lost contact**. Indeed, it's common for providers to end up with multiple small accounts for the same person (e.g., if that person worked at two firms that both used the same provider's group personal pension). Matching those records isn't always straightforward, especially if personal identifiers differ slightly.

When it comes to **segmentation**, many providers do little beyond perhaps age-based grouping. A default investment might be a "lifecycle" fund that automatically shifts asset mix as a member ages, but this is not true personalized segmentation – it's a one-dimensional approach assuming everyone of a certain age has similar needs. Marketing or engagement efforts, if segmented at all, might target broad groups like *"young starters"*, *"mid-career accumulators"*, and *"pre-retirees"* based on age bands (e.g. under 30, 30–50, 50+). While better than nothing, such crude segmentation fails to capture heterogeneity within age groups – for example, a 40-year-old could have £100,000 saved and be very engaged, or have £1,000 saved and be highly disengaged, yet age-based campaigns would treat them the same. Other common segment proxies include pot size (e.g. sending different literature to those above a certain balance) or whether the member is active (contributing) or deferred. However, these approaches are static and often *lagging indicators*. Providers rarely incorporate **behavioural data** such as has the member logged into the online portal or mobile app (and how recently), have they

opened or clicked emails, did they ever make an active investment choice, have they increased contribution rates above the default, etc. These are powerful predictors of engagement level, but legacy systems haven't made it easy to track or use such signals for segmentation. Some providers may not even have robust analytics on email engagement or web usage. As a result, communications tend to be uniform and not tailored to receptiveness or needs.

Furthermore, providers typically **lack external context data** about their members. For instance, understanding a member's broader financial picture (Do they own a home? Do they have other pensions elsewhere? What's their approximate salary or debt level?) could greatly inform how to help them. But pension providers have historically not had access to credit data or open banking info, and privacy concerns aside, they haven't pursued linking such data. This is starting to change – forward-looking schemes are exploring partnerships to enrich profiles (e.g. using Mosaic or similar socio-demographic segmentation from third-party data to infer a member's likely income or financial habits). Nest, for example, uses external **third-party segmentation techniques** to supplement its limited first-party data in understanding its largely low-to-moderate income membership. But industry-wide, these practices are nascent.

In summary, current data and segmentation in DC pensions can be characterised by: **fragmentation** (multiple records per person, disjointed systems), **sparsity** (few data points per member beyond the pension itself), and **simplicity** (basic grouping, if any). This leaves providers effectively "flying blind" about who their customers are as individuals. The next subsections illustrate how these shortcomings manifest in key business challenges like upselling, retention, and member outcomes.

### 3.2 Impact on Upselling, Retention and Member Outcomes

**Upselling (Contributions and Consolidation):** One of the main growth levers for pension providers is to encourage higher contributions or consolidation of outside pensions into their scheme. However, with current data limitations, providers struggle to identify which members are ripe for such upsells. For instance, consider voluntary contribution increases: Only a minority of auto-enrolled members ever raise their rate above the statutory minimum (8% of qualifying earnings). How would a provider pinpoint those who could afford to save more? Ideally, you'd look for signals like a recent pay rise (which might be deduced if contributions jumped in absolute £), or a pattern of regularly hitting monthly spending limits (if you had open banking data), or simply age/income brackets that are under-saving relative to goal. Lacking this, providers send generic messages like "It pays to contribute more!" to everyone, which mostly fall on deaf ears. Members may ignore it if it doesn't feel personally relevant or if it arrives at a financially inconvenient time.

A similar challenge occurs with **consolidating multiple pots**. Many people have old pensions sitting with previous employers' providers. As noted, the average person might accumulate 6–11 different pension pots over a lifetime, especially with auto-enrolment's coverage. For providers, getting a member to consolidate external pots into their account is a win-win: the member has fewer accounts to track and potentially lower fees, while the provider grows assets. But how to know who has other pots? Currently, some providers rely on the member to self-disclose (e.g. asking in surveys "Do you have other pensions?") – not very effective. Without external data or a pensions dashboard (which isn't fully available yet), providers are in the dark.

The result: **missed opportunities**. A member might have £10k lingering in another scheme earning low returns; a proactive provider could help transfer that in, but if they never identify that member as a consolidation candidate, those assets stay elsewhere (or worse, get forgotten entirely). The magnitude of this issue is huge: the Pensions Policy Institute estimates *3.3 million lost or dormant pots* in the UK, containing on average ~£9,500 each. Each of those is an upsell opportunity for some provider. Without better data, providers leave that money on the table and members leave value on the floor.

**Retention (Preventing Attrition at Retirement):** Retaining members as they move from accumulation (saving) to decumulation (withdrawing) is a critical issue. Currently, when people reach age 55+ and can access pension freedoms, many providers see an exodus of funds. Reasons include: the member takes a cash lump sum (sometimes the whole pot if small), or they transfer to another provider's drawdown product or an annuity specialist, often at the behest of a financial adviser. A key statistic: historically, only about **60% of drawdown customers stayed with their existing accumulation provider**, meaning 40% went elsewhere.

This "leakage" is significant. If 40% of pots leave at retirement, that's a direct loss of future fee revenue for the provider and potentially a sign that members didn't feel supported enough to stay. Why do they leave? Often, because they received little tailored guidance, they either seek an adviser (who might recommend a new provider) or they panic and cash out. If a provider cannot distinguish who among their 60-year-old members is likely to cash out versus who might stay if offered the right income product, they can't intervene effectively. Ideally, one would segment approaching retirees by factors like pot size (those with very small pots under ~£10k often fully withdraw; those with moderate pots might consider drawdown, etc.), by engagement (has the person been contacting the provider with questions? have they downloaded retirement brochures?), and by health or dependents (which might affect annuity interest). Without these insights, many providers only comply with basic requirements: sending a generic "wake-up pack" 6 months before 55 and at retirement age, full of dense options information.

Not surprisingly, **47% of retirees say they don't know how to plan for retirement** and only 25% are willing to pay for advice. That leaves a huge guidance gap. The outcome is often suboptimal choices: some withdraw too quickly and face tax bills or run out of money, others leave money uninvested in cash, etc. For providers, each member who leaves or makes a poor choice is a lost relationship and possibly a complaint down the line. We see emerging regulatory risk here – the FCA is concerned about non-advised drawdown and may impose stricter oversight if outcomes (like sustainability of withdrawals) are poor. In short, **poor segmentation = poor retention**. If you treat all retirees the same, you will lose many who might have stayed with a more tailored approach. This is especially true as competition grows; e.g., robo-advice platforms now target pension rollovers with slick digital journeys. Incumbent providers need to know which members to proactively engage (and how) to defend their base.

**Member Outcomes:** Ultimately, the combination of weak engagement and lack of personalisation feeds through to member outcomes, typically measured in terms of adequacy of retirement savings and financial well-being. Several data points illustrate the current state: Over **80% of DC members remain in the default fund**, which is not necessarily a bad outcome in itself (defaults are designed to be balanced), but it indicates inertia. Meanwhile, **20 million+ small deferred pots** exist, which implies many people have scattered savings that might incur multiple fees or get lost track of. The **average active pension contribution rate** for private sector DC is low (around 5% employee + 3% employer by law, and many stick to that). This likely won't achieve a comfortable retirement for most, yet because providers haven't personalised engagement, many individuals aren't aware of their shortfall until late. The House of Lords and others have flagged that a significant proportion of auto-enrollees could face inadequate income replacement rates. This is not entirely on providers – many factors at play – but providers could improve outcomes via segmented interventions (like targeting mid-career people who haven't increased contributions since their 20s). Another outcome issue is investment appropriateness: while defaults work on average, some members with high balances and low risk tolerance might have preferred less volatility, or conversely, younger savvy members might benefit from more growth assets if they understood them. Without segmentation, those nuances are lost.

Furthermore, certain groups (e.g. women, lower earners, part-time workers) systematically end up with worse pension outcomes – the "under-pensioned" groups identified by research. For example, women in their 40s may have multiple career breaks and lower average contributions, leading to smaller pots. A provider that does not segment by such factors will treat these members like any other, missing the chance to tailor support (perhaps encouraging additional voluntary contributions or spouse contributions to catch up). NOW: Pensions, for instance, did research on under-pensioned segments (like gig economy workers, ethnic minorities, etc.) to highlight the gaps. Without integrating that into strategy, providers risk certain segments falling through the cracks. From a Consumer Duty perspective, if those segments consistently

get poor outcomes, the provider could face questions on whether it really met the needs of all its customers.

In summary, the limitations in data and segmentation are not just internal inefficiencies – they have **direct business and customer repercussions**: missed revenue from upsells, lost AUM from leavers, and potentially poorer financial futures for members. The next subsection puts numbers to some of these issues, framing the **size of the problem** and the potential "cost of doing nothing," which will set the stage for why investing in AI-driven solutions is justified.

### 3.3 The Cost of Inaction: Quantifying the Problem

To convince any board, quantification is key. What do the aforementioned challenges amount to in pounds and pence, or in risk exposure? Below, we compile several critical metrics that illustrate the scale:

- **Lost & Dormant Pots:** As mentioned, there are an estimated **3.3 million "lost" pension pots** in the UK DC system, containing **£31.1 billion** in assets. This figure has surged by 60% since 2018 , showing the problem is growing as job mobility increases. For providers, each lost pot is either an account on their books with outdated details (implying admin costs and eventual escheatment issues) or, if it's lost elsewhere, an opportunity for acquisition. The cost of inaction here is multifaceted: continued administrative drag (providers sending statements that never reach owners, etc.), potential future claims if customers return having lost out on growth, and a significant missed opportunity to win back business. If even 10% of those £31bn lost assets could be consolidated by proactive providers, that's £3.1 billion up for grabs. In a low-margin industry, capturing even a slice of that is material.
- **Small Pots Administration Costs:** The **20 million deferred small pots** (under £10k) identified by IFS pose a cost problem. Many providers charge a percentage fee, so tiny pots may not cover their own admin costs (which are often fixed per account). The IFS notes these are *uneconomical*, leading to cross-subsidies or higher charges for everyone. Providers end up servicing millions of tiny accounts that may never grow, unless consolidated. This inefficiency ultimately shows up in higher Average Expense Ratios or lower net returns for members (thus a Value for Money issue). If policy forces consolidation (which is likely – DWP is discussing default consolidators for pots under e.g. £1k), providers that haven't proactively consolidated same-member pots will see them forcibly removed. The cost of inaction here could be the sudden **attrition of a chunk of accounts** and associated assets when a consolidator policy kicks in. Conversely, solving it via segmentation (identifying members with multiple pots with your firm and merging them, or encouraging them to bring external ones in) can reduce ongoing costs.

- **Disengagement & Missed Upsell:** Member engagement stats remain stubbornly low. A recent survey found **49% of workplace pension savers don't know what their pension is invested in** , and **38% don't realize they even have investment choices** beyond the default. That implies roughly half of customers are effectively on auto-pilot. For providers, that's half the base unlikely to respond to generic marketing. If one assumes perhaps only 10–20% of members actively pay attention to pension communications, any upsell campaign sent to all is 80–90% waste. That's a cost (printing, emailing, call-centre follow-ups to uninterested folks). More importantly, think of the **contribution gap** – many are defaulting at 8% total contributions, when estimates say **people may need ~12–15% for adequate retirement** (depending on starting age). The difference has to be made up by voluntary increases. If no one nudges them effectively, the **cost is a shortfall at retirement**. One could quantify that: e.g., a 30-year-old at minimum contributions might accumulate only ~£100k by age 68, whereas they might need £300k+ for a moderate retirement income. Multiply that shortfall across millions of people, and it's a societal problem – but for providers, it could manifest as future reputational or legal risk ("Why didn't our provider warn us we were under-saving?" could be a question under future regulations).
- **Member Churn at Retirement:** It's useful to estimate revenue lost when members leave at retirement. Suppose a provider has 100,000 members aged 50–65, each with an average pot of £30,000. That's £3 billion in assets. If, say, 30% of those assets are withdrawn or moved elsewhere over that cohort's retirement window due to lack of retention, that's £900 million assets gone. At an expense ratio of ~0.3%, £900m less AUM means ~£2.7 million less revenue annually. Even for a large provider, that is significant (and that revenue would have high profit margin since fixed costs are already incurred). The cost of inaction is letting that £900m walk. If improved segmentation and engagement could halve that attrition (keeping an extra £450m in-house), that retains ~£1.35m/year in fees. Over say 10 years, net present value could be well over £10m. This simple model illustrates why CFOs should care about segmentation as much as customer-facing teams do. Additionally, lost members can equate to lost cross-selling for other products (some insurers offer annuities, life insurance, etc. – if the pension customer leaves, those cross-sell chances vanish).
- **Compliance and Remediation Risks:** A more opaque but potentially enormous cost is that of regulatory action if outcomes don't improve. While quantifying is tricky, consider that the FCA has forced redress programs in other sectors (e.g. for mis-selling or for unfair pricing) costing firms tens or hundreds of millions. If, in a few years, Consumer Duty reviews find that a provider's customers consistently have poor retirement outcomes (maybe measured by replacement income or by surveys of understanding), the FCA could require that firm to **proactively compensate or improve terms** for those customers. Even short of fines or redress, failing to meet the Duty could mean tougher capital requirements or being barred from certain activity. There's also **litigation risk** –

we can anticipate future class actions if, say, a particular segment (like women or minorities) had systematically worse pension outcomes and it's argued the provider's lack of tailored communication played a role. These are speculative but increasingly plausible in an ESG-conscious world focusing on consumer fairness. The *insurance* against that is investing now in data and processes to show you did your best for each segment.

In aggregate, these points convey that doing nothing different is not a safe, neutral choice – it has real downsides. We've painted a picture of many millions in lost revenue and billions in assets that are not optimised.

This sets the stage for the solution narrative: **AI-driven segmentation** isn't just a tech buzzword, it directly targets these pain points – reactivating lost pots, engaging the disengaged, retaining the retirees, and proving you treat customers fairly. In Section 4, we transition to how exactly such an approach works and why it's particularly well-suited to overcoming the data and segmentation problems outlined here.

## 4. AI-Driven Segmentation: The Strategic Solution

To turn the tide, UK pension providers need to evolve from broad-brush approaches to **intelligent, data-driven segmentation and personalisation**. This section articulates what "AI-driven segmentation" means in practice, and how it can solve the challenges detailed in Section 3. We'll explore how softer indicators (behaviour, life stage, financial traits) can be harnessed, how AI techniques can infer or fill data gaps, and the multifaceted benefits – including alignment with regulatory expectations for better consumer outcomes.

### 4.1 From Static to Dynamic Segmentation

Traditional segmentation (if any) is static – e.g. grouping by age or balance once a year. AI-driven segmentation, by contrast, is **dynamic and multi-dimensional**. It leverages machine learning algorithms on all available data to find patterns and groupings that might not be obvious through manual analysis. For example, an unsupervised clustering algorithm might reveal that there are, say, 5 distinct member personas in a scheme:

- *"Busy Unaware Savers"* (younger, low engagement, moderate income),
- *"Active Optimisers"* (mid-career, high engagement, increasing contributions),
- *"Strapped Short-Termists"* (various ages, often lower income, frequently stopping contributions or cashing out small pots),
- *"Advice-Seeking Pre-retirees"* (older, high balance, contacting support often), and
- *"Disconnected Deferreds"* (preserved small pots, no contact, often moved jobs).

These personas are defined by combinations of behaviours and circumstances rather than one attribute. AI can pick up subtle variables – e.g. frequency of login, responsiveness to past communications, contribution patterns, etc. – to assign members to segments that are **far more predictive of their needs and future actions** than age alone.

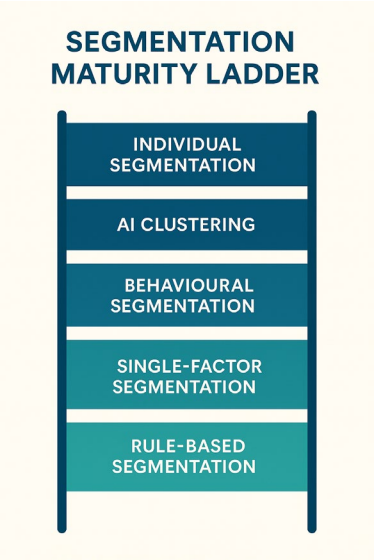
Consider behaviour like digital engagement: Nest observed that members who download and use their mobile app are quicker to complete important tasks (like naming beneficiaries) and generally show higher ongoing engagement. That is a behavioural segment right there – app users vs non-app users – which could be a proxy for who might respond better to push notifications versus who might still need paper communication. Another soft indicator is **life events**: some providers are starting to factor in events like marriage, childbirth, or home-buying if they become aware of them (for instance, via a change of name or address). Each life event can signal a shift in financial priorities, which AI can incorporate if captured. Even without explicit notices, AI might infer life stage from contribution patterns (e.g. a drop in contributions might indicate maternity leave or unemployment, which suggests a need for support or later catch-up).

Financial profile is another rich vein. If open banking data is leveraged (with consent), a provider could ascertain a member's general financial health – spending vs income, debt levels – which would vastly improve the appropriateness of suggestions (you wouldn't try to upsell a higher pension contribution to someone already struggling with overdrafts; instead you might offer budgeting help or a modest step-up plan). Absent direct data, proxies can be used: for example, credit bureau data might give an approximate affluence score or risk score. Providers could use postcode socio-demographic data to guess at income or wealth bands in absence of individual data. This is what is meant by "soft" indicators – not the hard data of what's in the pension, but contextual clues about the person behind the pension.

AI excels at combining these diverse indicators to create a more holistic picture of each member. Importantly, it can continuously update segments as new data comes in. For example, if a previously disengaged member suddenly logs in and switches funds (a sign of awakening interest), the AI model can re-classify them from "disengaged" to perhaps an "emerging engager" segment for follow-up. This is **dynamic segmentation** – fluid, responsive to changes in member behaviour over time, rather than fixed categories.

To visualise the evolution, consider a **"Segmentation Maturity Ladder":**

- **Level 1 – Single-factor Segmentation:** e.g. everyone under 40 vs over 40. (Very basic, low accuracy in targeting).




- **Level 2 – Multi-factor Rule-based:** e.g. under 40 AND balance >£5k = Segment A, under 40 and balance <£5k = Segment B, etc. (Better, but still manual and coarse.)

- **Level 3 – Behavioural Segmentation:** incorporate behaviours (login frequency, contribution changes) into rules or simple models to flag engaged vs disengaged. (More predictive of who will respond to outreach.)

- **Level 4 – AI-driven Clustering:** machine learning finds patterns across dozens of variables (demographics, balances, behaviours, external data) to create data-driven segments. These might reveal non-intuitive groupings, like a cluster of mid-career men and women who despite decent incomes always contribute minimum – requiring a particular communication strategy, perhaps leveraging behavioural nudges.

- **Level 5 – Individual Personalisation (Segment of One):** the ultimate goal where each member's experience is tailored uniquely by algorithms (think Amazon-style personalization but for pensions – e.g., different dashboard views or prompts based on predicted needs). This still uses segments under the hood but is fluid and highly granular.

Most UK providers today are around Level 1–2, some maybe dabbling in Level 3. The proposal here is to climb to Level 4 (and eventually 5) using AI, which is now feasible given advances in cloud computing and machine learning libraries, even on relatively modest IT budgets. The payoff is that communications and product nudges become **far more relevant** to each member. Instead of blasting 1 million people with the same newsletter about increasing contributions (yielding a 0.1% action rate), a provider could send one message to Segment A focusing on tax relief benefits (if that segment cares about maximizing gains), a different message to Segment B focusing on protecting family (if that segment is new parents who might respond to "save for your children's future"), and so on – with AI even optimizing the language and send time per segment based on past engagement data. This dramatically increases the likelihood of conversion (be it an upsell, or just engagement in general).

Dynamic segmentation is also key to meeting **Consumer Duty's requirement of ongoing monitoring** – you can track outcome metrics by segment and notice if one segment (say, "Disconnected Deferreds") has particularly poor outcomes (e.g., high cash-out rates at 55, low balances), then focus efforts there. Without segments, you only see an average outcome, which might hide pockets of concern.

### 4.2 Overcoming Data Gaps with AI and External Data

A critical question is: how do we do advanced segmentation when our underlying data is so limited or dirty? This is where AI can help in two ways: **data inference** and **data enrichment**.

- **Data Inference:** AI models can infer missing information by detecting patterns. For example, even if income isn't explicitly known, an algorithm might infer a member's income band from their contribution history (if someone is contributing say £150/month at 5% rate, it implies a salary around £36k). Or by the size of contributions relative to age, it might guess career progression. Similarly, if a member stops contributing at age 30, an AI could flag that pattern as likely job change or maternity leave, prompting an automated check-in on why contributions stopped. Natural language processing (NLP) applied to call centre notes or chat logs (if available) could extract sentiment or life events ("I just changed jobs…" mentioned in a call). While it's possible to do such analysis manually, AI does it at scale and continuously.

  Another example: identifying duplicate accounts belonging to the same person. AI can match on imperfect data (like using machine learning record linkage that accounts for spelling variations or moved addresses). Traditional systems might not link "Jon Smith at old address" with "Jonathan Smith at new address", but an AI could learn the probability and match them. This cleans the data by merging profiles, giving a fuller view of total assets per member. Some providers are investing in **entity resolution AI** for exactly this – to solve the multiple pots per person internally before dashboards do.

- **Data Enrichment:** This involves bringing in third-party data. Providers can partner with data vendors for credit, demographic, or lifestyle data. For instance, Experian's Mosaic (a UK demographic segmentation) can be appended to members by postcode, giving insight like "likely a Comfortable Families group, homeowner, two kids" or "Urban renter, likely lower income, etc." While not perfect, it's a starting point to tailor communications tone and content. The UK government's open data (like Indices of Multiple Deprivation by area) could be used to infer if a member might be in a vulnerable socioeconomic segment. AI models can incorporate these extra features to refine their clusters – maybe splitting a previously broad segment into two based on an external indicator that correlates with different behaviour.

Crucially, the advent of **Open Finance** (the extension of Open Banking principles to pensions/investments) might soon allow, with consent, the sharing of data like other pension holdings or overall net worth. Even ahead of formal frameworks, some fintech providers (like PensionBee or Moneyhub) aggregate multiple pensions for a user. If providers collaborate or use such services, they can get a feed of what other pensions a member has. This is a game-changer for segmentation: knowing that Member X also has a self-invested personal pension of £50k elsewhere means they're quite engaged and perhaps financially savvy – they might merit a different approach (maybe offering them more sophisticated investment options or advice). Conversely, if Member Y has only our pension and small, but we see from open banking that they have credit card debts, perhaps the ethical guidance is to prioritize clearing debt over extra pension contributions. AI can automate these kinds of complex decisions at scale, ensuring each member gets the optimal suggestion.

Even without real-time external data, providers often underestimate what they *do* have. For instance, payroll data via employers might indicate job role or salary band. Some providers collect beneficiary info – if someone named a spouse, we know they're married which implies certain financial planning needs. Engagement with tools (like using a retirement calculator on the website) is another internal data point indicating someone's concern about adequacy. AI can weave all these together to fill gaps.

**Example – Soft Indicator in Action:** Suppose a segment of members hasn't increased contribution in 5 years. Instead of assuming they're uninterested, AI cross-checks and finds many of them had erratic contribution patterns (some breaks) – possibly indicating gig or contract work. It then looks at external data and sees many are in postal districts with higher unemployment rates. This segment might actually be financially constrained. The AI might then suggest a different approach for them: perhaps focusing on consolidation of existing pots or ensuring they at least don't opt out, rather than pushing increasing contributions which might fall on deaf ears or even annoy. For another segment that hasn't increased contributions but shows high engagement (logging in often, maybe adding beneficiaries), the issue might be lack of knowledge – so a well-timed educational nudge about how increasing by 1% can grow the pot by £X could convert them. Without AI, both groups look identical (neither increased contributions), but the underlying causes differ and thus the interventions should differ.

In implementing AI-driven segmentation, **data governance** is paramount. Boards will rightly ask: Are we allowed to use this data? Is it GDPR-compliant to use say credit scores in segmentation? Generally, yes, if for legitimate interests and with proper transparency, but it must be handled carefully. The models must also be monitored for bias – we wouldn't want an AI inadvertently treating certain protected groups unfairly (e.g. always putting older or minority members into a "likely disengaged" segment and giving up on them – that would be unacceptable). The solution is to have human oversight and incorporate ethical guidelines into model development (sometimes termed "responsible AI").

Another advantage of AI is **personalised predictive analytics**. For instance, propensity models can predict: likelihood to opt-out of the scheme, likelihood to cash out at 55, likelihood to call the helpline, etc. If you know Member Z has an 80% predicted chance of cashing out within the next year (perhaps based on patterns similar to others who did), you can pre-emptively include them in a "stay invested" education campaign or offer a free session with a retirement coach. This predictive power is what turns data into proactive retention measures.

In summary, AI and external data, used wisely, can overcome the legacy data shortcomings by filling in missing pieces and painting a richer picture of each member. It shifts the paradigm from "we don't know much about our customers" to "we have a pretty good idea which segment each customer belongs to and what that implies for how we engage them."

### 4.3 Compliance and Outcome Benefits of Personalisation

Beyond the clear commercial upsides, it's worth highlighting how AI-driven segmentation aligns with regulatory and ethical goals – essentially turning compliance from a cost into a benefit.

- **Consumer Duty Alignment:** The Duty requires firms to understand the diverse needs of customers, including those in vulnerable circumstances, and ensure communications are understood by each group. A segmented approach is almost implicitly required to do this – one must identify which customers might be vulnerable (e.g. low financial literacy, health issues, etc.) and adjust communications. AI can help flag potential vulnerability: perhaps someone in a segment characterized by low digital engagement and living in a high deprivation area might be treated as needing extra support, or if AI sees behaviour like frequent small withdrawals it might flag someone struggling with debt. Providers can then provide "consumer support" tailored to them (e.g. proactively calling them, offering guidance on budgeting). This not only meets the Duty but also improves those members' outcomes.

  Similarly, Consumer Duty expects testing whether communications are effective. Instead of blanket surveys, AI can help by segment – e.g. you might find Segment A (younger, digital natives) responds well to app alerts, while Segment B (older, not tech-savvy) doesn't – leading you to provide paper or phone outreach to B. This kind of testing and adapting is exactly what the regulators want to see: that the firm *knows its customers and adjusts* accordingly. By citing how segmentation improved, say, comprehension scores or engagement stats in each group, a provider can evidence compliance robustly.

- **Pensions Dashboards & Data Accuracy:** Having an accurate single customer view (achieved via AI linking duplicates) means when dashboards query your data, you'll present a more complete picture to the user. Fewer "lost pots" and better matching means the provider looks competent and the member has a better experience. Also, if segmentation-led engagement encourages members to update contact details (maybe you find a gone-away segment and run a campaign to trace them), that directly reduces lost accounts which the dashboard program cares about. It's conceivable regulators will monitor reduction in lost pots as a success metric; providers with AI can get ahead by proactively reuniting people with pots (Nest has already consolidated £70m from 14,000 members by facilitating transfers in – an example of an outcome).
- **Decumulation Pathways & Suitability:** If a provider segments retirees, they can demonstrate to TPR/FCA that "we have identified different cohorts and here's how we cater to each." For instance, one cohort might be those with very small pots (we offer them a simplified cash withdrawal option, as it may not be worth entering drawdown), another cohort moderate pots (we auto-enroll them into our drawdown pathway default unless they opt out, per new rules), another cohort very large pots (we suggest seeking advice and perhaps offer an introduction to an advisor, recognizing these folks might need more bespoke planning). If questioned by regulators, the provider can show how no member is left without appropriate support – the segmentation is the backbone of that. Contrast that with a provider that has no segmentation – they might throw everyone into the same drawdown product, which could be inappropriate for some (too high fees for small balances, etc.). That provider could face intervention for not treating customers fairly or not offering value.
- **Monitoring Outcomes by Segment:** AI segmentation can be used to track key outcome indicators: contribution rates, investment performance, retirement pot size, withdrawal rates, etc. by each segment. This can uncover disparities – e.g. maybe members in a "low engagement, low income" segment are on track to replace only 20% of their income in retirement, whereas "high engagement, high income" segment is on track for 60%. With such insight, providers and trustees can focus strategy (perhaps lobbying government for better minimum contributions, or creating targeted education for the under-saving segment). Importantly, you can show regulators that you're aware of these gaps and taking action, rather than being blindsided later. CAPSA in Canada explicitly recommended that plan administrators tie engagement efforts to intended outcomes and understand different member cohorts to improve decisions – essentially advocating what we propose: know your segments and work to improve each. This is becoming best practice internationally; UK regulators will likely converge on similar expectations.

- **Preventing Scams and Errors:** Personalisation also helps in risk management. For example, if AI segmentation identifies unusual behaviour – say a typically disengaged member suddenly requests a full transfer following a cold call pattern – it could trigger a scam alert process. Providers can overlay a "risk segment" approach: segmenting transactions or requests that are out-of-pattern for a member and flagging them for extra verification (which Consumer Duty would view as good support – protecting someone from fraud).
- **Member Trust and Satisfaction:** While harder to measure, delivering personalised communication tends to increase trust. Members feel known and valued rather than just an ID number. For a board focused on member outcomes (and brand reputation), that's a significant benefit. For example, instead of generic newsletters, imagine a member receives an email that says: "Hi Alex, we noticed you're 5 years from retirement and have never changed your contributions from 4%. Many people in your situation choose to increase contributions in their last working years. If you increased yours to 6%, you could have approximately £8,000 more by 67. Can we help you make this change?" That level of personal touch (based on segmentation & data) can pleasantly surprise customers. They may be more likely to stay with that provider and even recommend it (net promoter scores could rise). This directly supports the Consumer Duty's requirement to act in customers' interests – it's not just about avoiding harm, but actively helping them achieve their financial goals.

**To sum up,** AI-driven segmentation is a strategic solution that not only addresses business growth objectives but also dovetails with compliance and the industry's direction toward outcome-focused service. It transforms the provider-member relationship from impersonal and reactive to **personalised and proactive**. With that conceptual groundwork laid, we move in Section 5 to quantifying the benefits – putting numbers to the improvements one can expect, thereby building the business case for investment in these capabilities.

## 5. Quantified Benefits and ROI Analysis

Having explored qualitatively how AI-driven segmentation can improve various aspects of a DC provider's business, we now turn to a quantitative lens. In this section, we present a detailed analysis of the expected benefits – from enhanced member retention to higher upsell conversion and cost savings – and culminate in a financial **Return on Investment (ROI)** model. The aim is to provide board-level decision-makers with concrete estimates of the "size of the prize" and to demonstrate that investing in data and AI capabilities yields a strong financial payoff alongside better member outcomes.

For clarity, we break down benefits into key categories: **Retention**, **Upselling (Contributions & Consolidation)**, **Cost-to-Serve Efficiency**, and **Compliance/Risk Mitigation**. Each category is quantified with either industry statistics or illustrative modelling. We then consolidate these into an overall ROI view, considering typical implementation costs for an AI segmentation project (which we'll also outline).

### 5.1 Member Retention and Decumulation Conversion

One of the most immediate revenue impacts is improving the retention of assets when members reach retirement (or when they change jobs). As noted earlier, providers historically lose a substantial fraction of DC assets when members decide how to use their pension at age 55+ or at job leaving. Let's quantify potential gains from reducing this attrition:

- **Baseline:** Without targeted intervention, suppose currently 40% of DC pot assets are withdrawn or transferred out within 5 years of a member reaching 55 (a mix of full encashments and transfers to drawdown elsewhere), consistent with the figure that around *three in five drawdown customers stick with their provider, implying two in five leave*. For a provider managing £10 billion in DC assets, perhaps £2 billion of that is held by members age ~50+ approaching retirement. If 40% of those assets eventually leave, that's £0.8 billion outflow. At an annual fee of ~0.3%, that outflow represents **£2.4 million per year of lost fee revenue** once fully realised (and even more in cumulative terms over the years, as the assets would have stayed invested otherwise).
- **Improvement via Segmentation:** With AI-driven segmentation, the provider can identify members at highest risk of attrition and intervene (through personalized guidance, product offers, etc.). Let's conservatively say this reduces the attrition from 40% of assets to 30% – i.e., a 25% reduction in the outflow rate (we keep 10% more assets than we otherwise would have). In the scenario above, instead of £0.8bn leaving, only £0.6bn leaves; £0.2bn extra is retained. That retained asset base yields an extra **£600k in annual revenue** (0.3% of £200m). While it

may not sound enormous relative to £10bn AUM, consider that this is essentially *pure profit* – retention doesn't require expensive acquisition costs, it's maintaining existing business. Over a decade, that £600k/yr is £6m, and if we discount to present value (say at 5%), it's ~£4.7m NPV. And that's on just one aspect (retirees) for a mid-sized provider; larger ones or those with more retiree-heavy demographics would see proportionally bigger numbers.

Furthermore, retaining assets has a compounding effect: if those members stay in decumulation products with the provider, some will keep money invested for 20-30 more years (drawing down gradually). The lifetime value of a retained retiree can be quite high, especially if the provider can also offer them an annuity or other products later. So the upside could be more than the 10-year view above.

- **Case Example:** Suppose Provider A has 100,000 members aged 50+, average pot £30k (so ~£3bn assets among that group). By applying segmentation, they identify 20,000 members who are at high risk of cashing out everything at 55 (small pots, low engagement) and provide them tailored communications about options (maybe encouraging consolidation or partial drawdown instead of full cash). They also identify 5,000 members with large pots who were considering external advice; they offer these individuals a free guidance consultation and introduce an in-house drawdown product with low fees. As a result, out of an expected 40,000 members to leave or cash out over the next 5 years, they manage to keep 5,000 of them who otherwise would have gone. If those 5,000 have an average pot of £50k, that's £250m retained that would have gone – yielding ~£0.75m/year fees. The cost of doing so might have been some enhanced communication and maybe beefing up drawdown offerings – likely far less than that annual revenue. This simple scenario yields a **retention ROI** (just on retention efforts) that is very high, possibly several hundred percent.

  Retention also avoids *customer acquisition cost* for decumulation – if they left and later you wanted to get them back, you'd spend marketing £; instead you kept them essentially for free by being proactive.

### 5.2 Upsell: Contributions and Consolidation

Another benefit bucket is increased inflows – getting members to put more into their pension, either from their pay (contribution rate upsell) or by transferring in external pensions (consolidation). Both lead to higher Assets Under Management (AUM) on which fees are earned, and in the case of contributions, it also improves long-term outcomes for members.

- **Contributions Upsell:** Let's quantify a plausible impact. Assume a provider has 1 million members with an average salary of £30,000, and currently 80% of them are contributing only the auto-enrolment minimum (~5% employee). If with general campaigns maybe 5% of members voluntarily increase contributions each year by some amount (a rough industry guess – voluntary increases are not common without prompting). Now, with AI segmentation, we target the right people at the right time. For example, identify those who just got a raise (via jump in contributions because 5% of a higher salary) – prompt them to channel part of that raise into pension. Or those age 40 with low balances – show them a projection of shortfall to motivate higher saving. Let's say we can double the conversion rate to 10% of members increasing contributions in a year (since messages are hitting receptive audiences rather than many who can't afford it).

  That means an additional 5% of 1,000,000 = **50,000 more people increasing contributions** each year due to better targeting. If the average increase is 2% of salary (e.g. from 5% to 7% employee contribution), that's £600 extra per person per year (2% of £30k). Across 50,000 people, that's £30 million more contributions flowing in annually. Over time this compounds: each year new contributions add to AUM and earn returns. Just focusing on the immediate fee impact: £30m more AUM * 0.3% fee = **£90,000 additional revenue in the first year**. But those contributions will likely stay invested for decades. If we assume even half of those 50k people keep contributing extra for say 20 years, the cumulative asset buildup is enormous (with investment growth, it could be in the hundreds of millions of extra assets by retirement). However, to avoid speculation, in a 5-year horizon, we might add £30m each year, so by year 5, that's £150m extra AUM (plus some growth), generating approximately £450k/year in fees by year 5. Presently, valuing the stream of growing contributions might give a few million pounds of benefits.

  It's important to note that these numbers scale with provider size. A smaller provider of 100k members might see ~£9m new contributions instead (one-tenth the scale), still valuable to them proportionally. Also, segmentation could aim to increase where they matter most – e.g. if company match is available, push those who aren't taking full advantage (free money on the table). That improved engagement may also please corporate clients (employers), enhancing scheme retention at the employer level too.

- **Pot Consolidation Upsell:** Now consider the consolidation of external pots. The most significant barrier to quantifying is that some portion of those 3.3m lost pots belong to your members and some to others, etc. But let's frame it from one provider's perspective: Out of their 1 million members, maybe 30% have one or more other pots elsewhere. If average external pot size is, say, £5k (some small ones), that's a potential £5k * 300k = £1.5 billion that could be consolidated into this provider's AUM. Realistically, not all can or will consolidate

(some may prefer multiple schemes). But if segmentation + outreach could convince, say, 10% of those (so 30k members) to bring over an average of £5k, that's **£150 million assets gained**. Fee revenue ~£450k/yr on that. Plus, those members now have larger balances with the provider, likely making them more profitable (fees often have a fixed component, or at least the provider's per-member cost is spread over a larger balance now). Consolidation also tends to increase engagement (the act of consolidating means the member is paying attention). This could lead to further upsells or retention of that person into retirement.

Even smaller improvements matter: If only 5,000 dormant pots of £2k each are consolidated, that's £10m added – maybe £30k revenue – which might pay for the entire communication campaign cost many times over.

- **To gauge cost vs benefit:** A digital campaign to target likely consolidators (maybe those with small current pot and long tenure – likely they had previous jobs with other pots) might cost a few pounds per member in marketing. If even 1% respond with a £5k transfer in, that's £50 per member gained in annual revenue, huge ROI.

  In addition to direct fees, consolidation reduces future admin (instead of possibly having to run that member's small old pot down to zero over time or risk losing contact). It also prevents competitor consolidators from poaching your members

- **Illustrative Summary:** Let's tabulate an example for a mid-large provider:
  - **Contribution Upsell:** 25,000 members increase contribution by avg £500/year = £12.5m/yr new contributions. Over 5 years ~£62.5m extra AUM (plus growth) -> ~£0.19m/yr fee by year 5. NPV (5yr) ~£0.7m.
  - **Consolidation Upsell:** 10,000 external pots avg £4k consolidated = £40m one-time AUM increase -> £0.12m/yr fee. If done gradually over few years, NPV ~£0.5m.

Combine these and you might get on order of **£1–2 million present value from upsell activities over a few years**. These are illustrative; actual could be higher if the provider is bigger or segments are very receptive.

Notably, beyond pure revenue, upselling contributions improves member outcomes – those who save more will have higher retirement income (fulfilling our duty). Consolidation also helps members (fewer small pots means less chance of lost pots and potentially lower fees due to economies of scale).

### 5.3 Operational Efficiency and Cost-to-Serv

AI-driven segmentation doesn't just boost revenue; it can also trim costs by enabling more efficient operations. Two key areas: **marketing efficiency** and **customer service optimisation**.

- **Marketing/Communication Efficiency:** In the old model, providers might send paper packs or blanket emails to all members for various campaigns (financial education, fund updates, etc.). This shotgun approach has low conversion and wastes resources on uninterested members. With segmentation, communications can be more targeted, potentially reducing volume. For example, you might stop mailing investment option brochures to members who have shown zero engagement and small balances (instead, focus on getting them to download the app first). Or send more communications electronically where members are digitally active, and reserve costly print for those who aren't. If AI says 20% of members are highly unlikely to respond to a certain campaign (and might even be annoyed by it), you can suppress sending to them – saving print and mail costs, or reducing email fatigue which can cause unsubscribes.

  Quantitatively, suppose a provider spends £2 per member per year on various communications (printing, posting, etc.), so £2m/year for 1m members. If smarter segmentation cuts unnecessary contacts by 20%, that's a savings of **£400k/year**. Even digital comms have a cost (internal team time, or external creative costs). Focusing efforts where they matter improves ROI per campaign. In fact, you might reinvest some savings into higher-quality communications for the target segments (so not all becomes bottom-line saving, but it's more effectively spent). Either way, the cost per positive outcome (e.g. per additional contribution or per retained member) improves dramatically.

- **Customer Service (Cost-to-Serve):** Providers have call centres and support teams handling inquiries like fund switches, retirement questions, etc. These costs can be significant, especially around times of market volatility or regulatory changes (when members call in with concerns). AI segmentation can streamline service in a few ways.

  *Firstly,* by predicting needs: if you know Segment X is likely to call with certain questions (say, pre-retirees asking about tax-free cash), you can proactively send them targeted FAQs or direct them to online tools, potentially heading off some calls. Fewer calls = lower costs. If an average call costs, say, £5–£10 (taking into account staff, systems, etc.), preventing 10,000 unnecessary calls saves ~£50k–£100k.

*Secondly,* by personalising digital self-service. Many providers have online portals or chatbots. AI can tailor these interfaces – e.g. showing content relevant to the member's segment on their dashboard (like a "Welcome new joiner, here's how pensions work" vs "You're close to retirement, see your drawdown options"). If done well, members find what they need without phoning. That improves satisfaction and reduces cost.

*Thirdly,* segmentation can identify which members prefer which channels. Some segments (young, busy professionals) might hate phone calls and only want digital; others (older, less tech-savvy) might need phone support. By not forcing everyone into the same channel, you allocate resources better – perhaps fewer costly mailers to digital folks, and fewer in-person seminar invites to those who won't attend, etc.

**Example:** A provider finds through AI that 15% of their members (Segment D) never log in and often call to ask basic balance info. This segment might appreciate a simple SMS balance alert or a paper statement more often, to preempt calls. The cost of an SMS is pennies versus a call at pounds. Meanwhile, another 50% (Segments A & B) never call and do everything online – the provider can confidently invest in app features for them and maybe shrink call center capacity over time or reallocate those reps to outbound guidance calls for the vulnerable segment. The net effect might be that even as membership grows, call volume stays flat or declines, saving on the need to hire more staff. Over a few years, that could save hundreds of thousands in salary.

- **Automation Opportunities:** With clearer segments, providers can automate tailored workflows. For instance, onboarding new members (Segment: brand new auto-enrolees) can be put through an automated welcome journey with emails, nudges to name beneficiaries, choose contribution level, etc., reducing the need for human follow-up. Or lapsed contributors (Segment: stopped contributions) can get an automated sequence encouraging re-enrolment. Automation software costs are relatively fixed, so scaling to thousands of members is cheap compared to manual outreach. If segmentation can reduce, say, 10% of manual admin interventions (forms, follow-ups, etc.), and if each intervention costs £20 of staff time, on a base of 50,000 interventions, that's 5,000 saved = **£100k**.

- **IT and Governance Efficiency:** Even data cleaning efforts can be guided by segmentation – focusing on areas that matter for outcomes. That avoids boiling the ocean in data projects. For example, if you know which segments have a lot of missing data and that filling it will drive ROI (like missing email addresses for a segment that is otherwise engaged digitally – fix that first to enable cheaper e-comms to them), you can prioritise. This yields a more efficient use of IT budget. Hard to quantify generally, but it shortens time-to-value for data investments (which any CFO would appreciate).

All told, cost efficiencies might contribute mid-six-figures annually for a large provider, which adds to the ROI.

### 5.4 Compliance Risk Exposure and Mitigation Value

While not always captured in traditional ROI, the value of **reduced compliance risk** deserves mention. Avoiding a large fine or customer redress program is equivalent to gaining that amount, from a shareholder perspective. For instance, look at past mis-selling scandals in financial services – firms have set aside tens of millions (PPI insurance scandal cost UK banks over £30 billion in redress). In pensions, we haven't had something of that magnitude, but the Consumer Duty introduces potential for enforcement if outcomes are consistently poor.

Let's assign a notional probability and impact: Suppose without segmentation, a provider has a 10% chance that in a few years the FCA finds significant Consumer Duty breaches requiring a remedial action costing £5m (could be compensation, system overhaul, etc.). That's an expected risk cost of £0.5m. With proactive segmentation and demonstrated positive outcomes, maybe that risk drops to 2% chance of a £1m minor issue = £0.02m expected cost. The difference, £0.48m, is a "benefit" in expected terms. While not a line item in an income statement, it is an avoidance of potential future cash outflow. Boards often use risk-adjusted calculations; here we'd say segmentation yields a risk-adjusted benefit by lowering the likelihood of adverse regulatory events.

Similarly, reputational risk is mitigated. If your members generally have better outcomes than those of competitors (because you tailored support), your firm avoids negative press and could even win business (positive reputational capital). Avoiding scandals or complaints (the Financial Ombudsman could award compensation per complaint if they find a firm didn't act in customer's interest) is again an intangible benefit. Maybe it prevents, say, 50 escalated complaints a year that might have cost £1k each = £50k.

Another angle: should future regulation tighten (e.g. mandatory enhancements or data requests), a firm already doing segmentation can comply faster and cheaper. For example, if TPR/FCA start requiring reporting of outcomes by demographic segment, those who have to scramble to build that analytics from scratch will spend a lot. Those who already have segmentation models can produce it easily. This avoided future cost might be in the hundreds of thousands if big consulting projects are avoided.

While we cannot pin an exact monetary value on compliance peace of mind, it's arguably **priceless** when considering long-term strategy. For ROI purposes, one might conservatively include, say, £200k/year worth of "risk mitigation benefit" (via avoided costs or fines) in the ledger. Or treat it qualitatively as an additional 10-20% boost to ROI that's not captured in pure revenue/cost numbers.

### 5.5 ROI Summary (3-Year Financial Impact Model)

To wrap up the analysis, we compile a simplified **3-year ROI model** for investing in AI-driven segmentation. This includes the streams of benefits discussed and the estimated costs of the initiative. We will assume a hypothetical mid-sized provider with ~1 million members for this illustration:

**Upfront/Recurring Costs:** Implementing AI-driven segmentation will involve: data integration and cleanup, software or platform purchase (or development), data science and IT personnel, training staff, ongoing maintenance. Let's estimate: initial investment £1.5m in year 1 (for systems and project setup), and ongoing costs of £500k/year for analytics staff, software licenses, etc. over years 2 and 3. Total 3-year cost = **£2.5m**.

**Benefit Streams (annual by Year 3):**

- Retention: By year 3, assume an extra £200m AUM retained yielding £600k/yr fees (from section 5.1).
- Upsell: By year 3, accumulated extra contributions & consolidations give, say, £100m additional AUM -> £300k/yr fees (plus it's growing as more contributions come).
- Marketing/Operational Savings: ~£300k/yr saved from printing, mailing, call reduction, etc.
- Risk/Compliance Avoidance: notional £100k/yr (harder to quantify but we include some).

By year 3, annual benefits sum to ~**£1.3m per year**. Cumulatively over 3 years (assuming it ramped up: e.g., £0.5m in year 1, £1.0m in year 2, £1.3m in year 3) that's around £2.8m benefit vs £2.5m cost – already a slight positive net. But importantly, beyond year 3, these benefits would likely continue or even increase (once segmentation capabilities

are built, they yield ongoing returns with relatively steady costs). In years 4, 5 and beyond, it could be consistently £1.3m or more per year in value, meaning the project pays back and then some.

Calculating a quick ROI: Net present value (NPV) of 5-year benefits minus costs. Year 1: -£1.5m (cost, minimal benefit as it's build phase). Year 2: -£0.5m (cost) + £1.0m = +£0.5m net. Year 3: -£0.5m + £1.3m = +£0.8m. Year 4: (assuming still -£0.5m cost + £1.3m benefit) = +£0.8m. Year 5: +£0.8m. If discount rate ~5%, NPV ~£1.8–2.0m positive. Internal Rate of Return (IRR) might be around 20-25%. Payback period probably by Year 3.

Even under conservative assumptions, the **ROI is clearly positive**. And these figures can be much higher for larger providers or more aggressive segmentation strategies. For example, some case studies show targeted retirement communications can double the retention rate – that alone could add several million revenue for a big insurer.

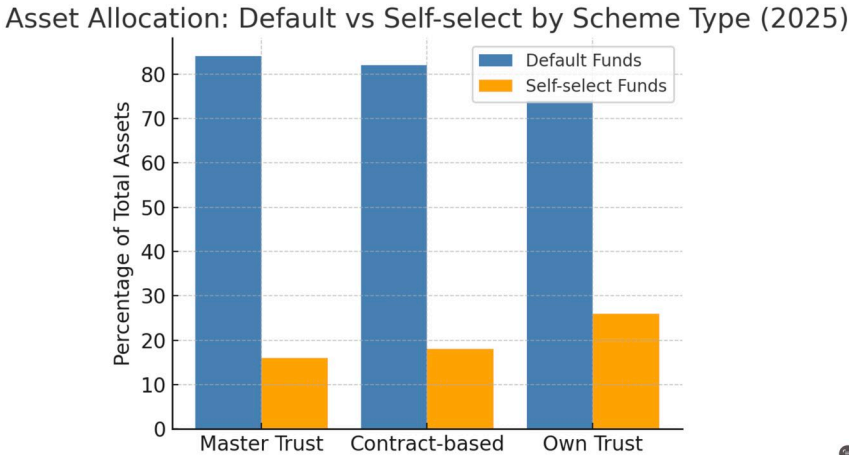
It's also instructive to consider **worst-case and best-case scenarios:**

- *Worst-case:* Benefits only half as effective as hoped (maybe because of implementation issues), so only ~£0.65m/year by year 3. Then 3-year cumulative ~£1.4m vs £2.5m cost, a shortfall. However, even then, intangible compliance benefits might cover the gap, and by year 5 it likely breakeven. Risk of not recouping is low if execution is decent.
- *Best-case:* Segmentation is highly successful, doubling metrics (like retention up by 20% of assets, contributions boost significantly). Could see £3m/year benefits by year 3. That'd be nearly £9m cumulative in 3 years on £2.5m cost – a stellar ROI.

The model doesn't even price in possible competitive gains: e.g., winning new employer schemes because you have demonstrably better engagement (which could happen under value-for-money assessments). That could bring large inflows not counted above.

Below is a **table summarising** the ROI model for clarity:

*Figure 1: Example 3-Year ROI Model for AI-Driven Segmentation.*




*Assumes mid-sized provider (1m members, £10bn assets). Retention and upsell drive growing revenue uplift, while cost-to-serve savings reduce expenses. The cumulative net benefit turns positive by Year 3.*

| Metric | Year 1 | Year 2 | Year 3 | Comments |
|---|---|---|---|---|
| Members Affected (segmented comms) | 0.2m | 0.5m | 1.0m | Number of members receiving personalised interventions (grows as system scales). |
| Retained Assets (cumulative) | £0 | £100m | £200m | Extra assets kept vs baseline, from fewer leavers. |
| Extra Contributions & Transfers (cum.) | £10m | £50m | £100m | Additional inflows from upsell efforts. |
| **Revenue Uplift (fees)** | £0.1m | £0.7m | £0.9m | 0.3% of retained + new assets; grows over time. |
| **Cost Savings** (marketing/ops) | £0.0m | £0.2m | £0.3m | Printing, call centre reductions, etc. |
| **Total Benefits** | **£0.1m** | **£0.9m** | **£1.2m** | Sum of revenue uplift and cost savings. |
| **Project Costs** | £1.5m | £0.5m | £0.5m | Initial system build then ongoing analytics/licences. |
| **Net Benefit (annual)** | -£1.4m | +£0.4m | +£0.7m | Negative in Year 1 (investment phase), positive thereafter. |
| **Cumulative Net** | -£1.4m | -£1.0m | -£0.3m | Cumulative crosses into positive in early Year 4 (~£0.4m). |
| **Net Present Value (5yr)** | - | - | **+£2.0m** (approx) | Discounted at 5%, indicating strong ROI over 5 years. |
| **IRR (proj.)** | - | - | **~22%** | Internal Rate of Return over 5-year period. |

*(Note: Figures above are illustrative. Actual results depend on implementation effectiveness and member responsiveness. Sources for assumptions include FCA data on retention and PPI data on small pots, combined with industry experience.)*

As shown, even moderate success in boosting retention and contributions yields a healthy return while also delivering regulatory and customer benefits. The financial case, therefore, complements the strategic and compliance case. A board can be confident that approving this initiative is not just a compliance or customer satisfaction play, but a value-accretive investment.

With the ROI case established, the next logical question is execution: how to implement this in a structured, practical manner. Section 6 will provide case studies indicating what has been done already by peers (proof that it works in real life), and Section 7 will outline a concrete roadmap to achieve these results in a manageable, SMART way.

## 6. Case Studies: Segmentation in Action

It's helpful to see real-world examples of how leading pension providers are already leveraging better segmentation and data-driven strategies. In this section, we present a series of mini case studies: from large UK providers innovating in member engagement, to relevant international experiences that foreshadow what the UK could adopt. These examples serve as both proof points and inspiration, demonstrating tangible outcomes achieved through approaches akin to AI-driven segmentation.

### 6.1 Nest (National Employment Savings Trust) – Behavioral Segmentation at Scale

**Background:** Nest is the UK's largest pension scheme by membership (over 13 million members, largely lower-to-moderate earners auto-enrolled via small employers). Engaging such a broad, often disengaged population is a massive challenge. Nest's member base is diverse and includes many with transient jobs and multiple small pots.

**Segmentation & Approach:** Nest has invested in **behavioural science and data analytics** to improve communications. According to Nest's Member Proposition Director, the scheme **uses a combination of first-party insights and third-party segmentation techniques** to build understanding of its members. Practically, this means Nest doesn't rely solely on employer-provided info; it enriches its data. They likely use external demographic data (e.g., Mosaic profiling by postcode) to segment members into personas, and track behaviour such as whether someone has registered online, downloaded their app, named beneficiaries, etc. Those actions serve as proxies for engagement level.

Nest also categorises communications by hierarchy of importance and times them based on behavioural insights. For example, they ensure key "to-do" tasks (like setting up nominees) are prompted at moments a member is most likely to respond. They found frequency sweet spots to avoid too little vs too much contact. Behind this lies segmentation: new members are nudged often shortly after joining (when interest might spark) whereas dormant members aren't spammed frequently.

**Initiatives & Results:** A standout initiative was **Nest's mobile app launch**. Recognising many members are mobile-first, Nest launched an app and found that *"new members are far more likely to engage and set up nominated beneficiaries via the app than the desktop portal"*. This indicates a segment difference: newer, younger members prefer app interaction and as a result, important tasks like beneficiary nomination shot up – a concrete outcome improving member security. Nest's team noted that app users complete actions quicker, implying segmentation by channel can speed up engagement.

Another angle is Nest's attempt to consolidate duplicate accounts and keep data current. They acknowledge duplicate accounts are frequent and data quality a "huge hurdle". To address this, Nest likely leverages data matching and encourages members via campaigns to combine pots (Nest reported 14,000 members consolidated £70m into Nest in one year, showing success in consolidation efforts).

Nest's culture of **test-and-learn** means they often run experiments on sub-groups to see what messages work. For instance, they might A/B test different email phrasing on segments to see which yields higher contribution increases, then roll out the winner. They also focus on inclusive communications – measuring impact on vulnerable segments separately.

**Outcomes:** While Nest does not publicly release detailed segmentation analytics, the available info shows improvements in engagement metrics: higher app adoption, faster completion of tasks, and presumably better contribution persistence (Nest has gradually seen rising average contributions as auto-enrolment minimums increased). Nest's proactive communication, aided by segmentation, likely contributed to **22% of Nest's active members contributing over £750/year (a big increase from prior years)** , indicating more people contributing above minimum – an upsell success partly credited to tailored engagement. Nest also managed to retain or attract a good number of moderate earners – contrary to initial beliefs that it only had the lowest earners. This suggests communication segmentation has allowed Nest to appeal to a broader segment of its membership (including average earners who might have otherwise left for other providers). Finally, Nest has built trust to innovate in a regulated space – they are exploring AI for inclusivity checks and predictive insights carefully , showing they are on the path to even more advanced segmentation (cautiously, to avoid mistakes).

**Key Takeaway:** Nest's example shows that even with a challenging demographic, using behavioural segmentation and iterative testing leads to markedly improved engagement and administrative outcomes (like up-to-date beneficiary info for more members, consolidated pots, etc.). A large, largely passive member base can be moved in the right direction with the right data-driven nudges. For other providers, Nest offers a model of investing in internal capability (they have behavioural scientists on staff) and leveraging technology (mobile app, analytics) to personalize at scale without straying into advice.

### 6.2 Aegon – Co-creating a Personalised Digital Pension Experience

**Background:** Aegon UK is a major provider of workplace and individual pensions, historically with an insurer legacy but pushing into platform-based pensions. They face the industry challenge of low engagement, particularly with legacy workplace scheme members who treat pensions as distant "invisible money".

**Segmentation & Approach:** Aegon recognised that to stand out, they needed to **"put customers at the heart"** and understand their diverse needs. They embarked on a collaboration with Deloitte's digital team to **research and prototype a new pension service**. Central to this was engaging real customers and hearing from different types of users (implicitly, segmentation). They literally went out to workplaces and tested prototype ideas with employees of various ages and backgrounds , which revealed insights such as: people don't always want the fastest, one-click pension decisions; some prefer more guidance and education as it builds confidence. This insight likely came from segmenting testers by their financial literacy or engagement level.

Aegon's project identified that customers have **"complex financial goals and decisions"** and many have multiple jobs/pots. So they focused on a design that could unify pension information (echoing the dashboard concept) – "what if there was one fuss-free way of accessing them all [your pots]?". This led to developing a digital prototype centred on a **consolidated view and interactive tools**, meeting customers "anytime, anywhere". Segmentation here is addressing the multi-pot holders as a key group. By simplifying access to all pensions in one place, Aegon aims to capture that segment (perhaps winning rollovers).

They also likely segmented by life stage in their testing – asking questions like "Do you know how many pots you have? Do you know how they're invested?". Many said no. They're bridging a knowledge gap segment (financially uninformed) by making the app educational: showing "potential income in retirement and how to change course" prominently – a design choice to engage those who need a wake-up call on savings levels.

**Initiatives & Results:** The co-design approach itself was innovative – essentially treating segmentation as an input (different types of users giving feedback) and output (the resulting service adapts to different needs). They overhauled the user journey to be simpler yet with enough explanation to boost confidence. Early impact: testers responded positively, and Aegon decided to adopt this new digital journey. While actual metrics are not public yet (the case study was about the process), one can infer future improvements like: more members actively logging in to view all their pots, higher transfers-in to use the "one place" service, and better understanding (maybe measured by more people setting retirement goals in the app).

Aegon also acknowledged multiple jobs and longevity, hence needing to **engage customers even after they leave the workplace** – targeting the often-lost segment of dormant members. We can expect Aegon to implement features to keep people engaged even if they change employer (e.g., direct communication to personal email, not just via employer). Many providers lose track when a member leaves the sponsoring employer; Aegon's new model likely uses personal registration via the app/portal to maintain the relationship (reducing lost-contact pots).

Internally, Aegon's case is notable for uniting cross-functional teams (pensions experts with designers, tech, etc.) , which is required to embed segmentation thinking into both product design and communications.

**Key Takeaway:** Aegon's experience underlines the importance of **customer research and segmentation in designing digital experiences**. By listening to different groups of customers, they discovered that assumptions (like "quick and easy is always best") weren't universally true; some segments need a considered journey with more info. For other providers, the lesson is: involve your customers (across age/income segments) in co-creation. Use their feedback to segment needs (some want simplicity, others control; some want guidance, others independence) and build flexible solutions accordingly. This not only improves engagement but also aids retention – a service that adapts to user preference will keep a broader range of customers with you.

### 6.3 Aviva – Guided Retirement and Targeted Decumulation Paths

**Background:** Aviva is one of the UK's largest insurers and pension providers, serving both workplace and retail customers. They have been at the forefront of responding to pension freedoms and decumulation challenges.

**Segmentation & Approach:** Aviva identified that decumulation (retirement drawdown phase) was under-served and many retirees were overwhelmed by choices. They developed a proposition called **"Aviva Guided Retirement"**, aiming to provide guided investment pathways and tools for retirees. Implicitly, Aviva segmented retirees into at least two phases: *"early active retirement"* vs *"later retirement"*. Their research noted "two distinct phases of retirement: early years (more active, need flexibility) and later years (more certainty needed)". This directly informed product design – presumably offering a more growth-oriented flexible drawdown for the first phase and suggesting annuities or secure income for the later phase. Essentially, Aviva is segmenting by life stage within retirement, which many providers hadn't explicitly done.

Additionally, Aviva looked at common questions all retirees face (their three key questions: funding plan, pot size vs needs, other sources) to create a baseline guidance applicable to all. But then acknowledges drivers like demographics, gender, health, etc., add further segmentation needs to get to the right answer. For example, women tend to live longer (longevity risk segment), men often have bigger pots but less diversification, etc.

**Initiatives & Results:** Aviva's Industry Voice article suggests they are educating customers and advisers on the importance of decumulation focus. As part of Guided Retirement, Aviva introduced ready-made portfolios (three portfolios for retirement income with different risk levels) targeting those who don't take full advice. This is effectively segmentation by risk appetite/need: offering options for cautious vs

moderate vs higher risk drawdown approaches. By doing so, Aviva hoped to capture non-advised drawdown customers who might otherwise go elsewhere.

They also highlight stat that **65% of people say "having an income that lasts is top priority"** , which underscores the need to nudge people towards longevity-protected solutions. Aviva's approach likely improved annuity uptake or delayed drawdown for some – aligning solutions with that expressed need.

While we don't have Aviva's internal data, we can infer outcomes: possibly increased retention into drawdown. Aviva in 2022 reported increased flows into their retirement products, suggesting their guided approach was retaining more pension customers post-retirement than before. They've also been vocal that *only 10% of pots are annuitised now vs 90% pre-2015*. Aviva's guided drawdown aims to serve the 90% now doing drawdown or cash. If segmentation keeps even a portion from cashing out too fast, it's a win.

Aviva's focus on **"understanding the customer's total wealth picture"** (they encourage advisers to segment clients for Consumer Duty compliance ) indicates that segmentation isn't just internal – they're pushing it through adviser networks too. If advisers segment clients (for example by complexity or size) and use appropriate solutions (like Guided Retirement for simpler needs), Aviva's products can be matched to the right people.

**Key Takeaway:** Aviva's case illustrates segmentation in the decumulation context. Recognising that retirees are not homogeneous – some will spend more early, some need guarantees late – Aviva tailored its strategy accordingly. Providers should similarly segment their near-retirement population: who needs flexible access, who might value guaranteed income, who is likely to be vulnerable (47% don't know how to plan, only 25% take advice – that majority may need extra handholding). By doing so, providers can develop targeted products/services for each retiree segment, improving retention and outcomes. It also shows innovation in response to regulation: anticipating Consumer Duty and Retirement Pathways, Aviva created a solution that tries to ensure each segment (self-guided vs needing advice) gets something suitable, thus reducing risk of poor outcomes.

### 6.4 NOW: Pensions – Data Cleansing and Under-pensioned Segments

**Background:** NOW: Pensions is a master trust focusing on auto-enrolment, with many smaller employers. They had infamously struggled with data and administration issues in early years (some contribution records were muddled), which impacted member experiences.

**Segmentation & Approach:** One major effort for NOW has been **data governance improvement** – essentially segmenting data issues and tackling them. They recently implemented a new data model and governance program. By doing so, they likely segmented their membership data into categories: clean vs missing fields vs duplicates, etc., and systematically improved it. This isn't market segmentation per se, but it is a prerequisite to enable it.

On member segmentation, NOW: Pensions has strongly advocated for addressing **"under-pensioned" groups**. They commissioned research (with the PPI) to identify segments of UK society that end up with much lower pension savings: e.g., women, disabled people, certain ethnic minorities, gig economy and part-time workers. This shows NOW's focus on segmentation by socio-economic factors. For example, they found some groups have 50-70% less pension savings on average. NOW used this research in content marketing to raise awareness and call for policy changes. Internally, it likely informs their member communications – if they know a member is, say, self-employed or a single mother (some data might hint at that), they can tailor messages about how to boost their security.

Also, NOW operates in sectors with **high labour turnover (hospitality, etc.)** where 40% staff might leave in year one. They know many members will be with them briefly and leave small pots. So their strategy has included advocating for consolidation solutions. In written evidence to Parliament, NOW noted they support auto-consolidation for small pots and that they themselves try to consolidate same-member pots within their scheme. This internal consolidation by same provider is a practice of segmentation – recognizing when the same person re-enrolls via a new employer and merging accounts. It reduces duplication and cost.

**Initiatives & Results:** NOW's data overhaul likely reduced errors and backlogs, improving compliance and member trust. By highlighting under-pensioned segments publicly, NOW built a brand around advocating for the underserved, which could attract employers or members who care about that mission. It may also guide how they design communications – e.g., making them simple (given many of their members are lower income, possibly lower financial literacy).

Their annual "Under-pensioned Index" report (2022) draws attention to these gaps. A potential outcome: NOW might design different default strategies or engagement for those groups. For instance, knowing that part-timers (many of whom are women) accumulate less, they might push for spousal contributions or additional voluntary contributions when those individuals can afford it.

While specific stats are scarce, one can note that despite a transient customer base, NOW's scheme has grown (over 2m members). They likely benefit from default consolidator proposals since they have many small pots that could be moved to a

consolidator (unless NOW chooses to be one). Their segmentation stance positions them to potentially become a specialist for certain segments (like gig workers).

**Key Takeaway:** NOW: Pensions showcases that even if your membership is largely passive or transient, segmentation (in this case by problem type – data issues, and by demographic group – under-pensioned) is crucial. Cleaning data is step one to any segmentation; NOW did that out of necessity and improved operations. Focusing on under-served demographic segments can differentiate a provider (as an advocate) and may pre-empt regulatory moves. Others can learn: know the profiles of who is likely to be short-changed by the pension system (e.g., low earners who don't hit auto-enrolment thresholds, etc.) and find ways to help them. That might create goodwill and, if policy changes (like raising contribution rates for gig workers), you're ready to implement because you've studied that segment.

### 6.5 International Examples – Australia's MySuper and Canada's CAPSA Guidelines

**Australia (MySuper & Retirement Income Covenant):** The Australian superannuation system introduced "MySuper" default funds in 2014, which simplified choices and fees for default members. Many large funds adopted **age-based lifecycle strategies** within MySuper – a basic form of segmentation by age. This means younger members' default asset allocation is growth-oriented, while older members' defaults shift to conservative as they near retirement. This segmentation has improved outcomes by better matching risk to life stage, and Australia's regulator allowed it seeing its value. By 2020, ~$300bn was in lifecycle MySuper products, showing widespread adoption. The **Retirement Income Covenant (2022)** then forced trustees to think about retirees' needs. Funds like AustralianSuper and QSuper started segmenting retirees and offering blended solutions (like keeping part in growth, part allocating to an annuity at a later age). Early results indicate more members are remaining in the fund through retirement as these strategies rollout, whereas previously many took lump sums. Essentially, Australia demonstrates that regulated segmentation (by age and retirement needs) can become industry norm and improve overall system outcomes (higher average equity exposure for young members, etc.). We expect the UK to perhaps follow with something like "investment pathways" in trust schemes or default drawdown options – learning from Australia that segmentation is key.

**Canada (CAPSA DC Guidelines):** The Canadian Association of Pension Supervisory Authorities updated their guidelines in 2022 for Capital Accumulation Plans. They put emphasis on **"outcome-focused decision making"** and **"member engagement as a pillar of success"**. They effectively tell plan sponsors to understand their plan's purpose in terms of delivering retirement income, and to adopt practices like showing retirement projections on statements (to engage members with their outcomes). That is a form of segmentation – tailoring info to a member's projected outcome, and potentially

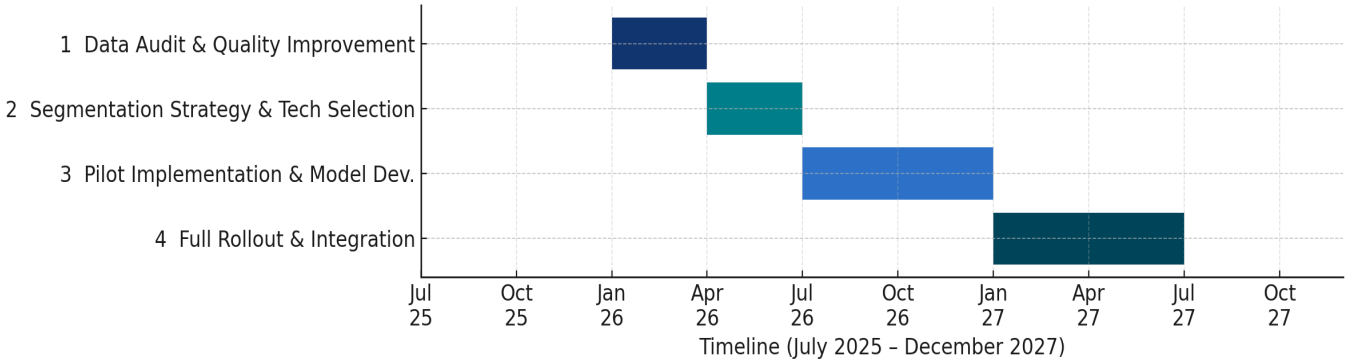
highlighting if they are off track. Also, the guidelines encourage using behavioural economics and simplified choices to enhance engagement. Many Canadian group RRSP/DCPP providers now incorporate tools that segment members by engagement level (e.g., Sun Life's platform identifies who hasn't set a goal and targets them with pop-ups). The focus on measuring outcomes implicitly requires segmentation – a plan might check how many of its members are on track for a certain replacement ratio. This pressure likely leads providers to do what we're advocating: implement data analytics to monitor segments' progress.

**Key Takeaway:** Internationally, there's a clear trend of segmentation being embedded either via regulation or industry innovation: age-based defaults in Australia, outcome-based communications in Canada. The UK can draw on these examples: our regulators might soon expect clear retirement income strategies (as in Australia) for default members and evidence of engagement efforts (as in Canada). Providers who start segmenting now will adapt more easily to such expectations. Moreover, these international cases show improved member outcomes – e.g., Australians ending up with more appropriate asset allocations and Canadians potentially more aware of their retirement readiness. Superior outcomes strengthen trust in the pension system as a whole.

In summary, the case studies in this section – Nest, Aegon, Aviva, NOW, and international examples – all reinforce the central message: **segmentation works**. It is being used by major players to drive engagement, design better products, retain customers, and meet regulatory goals. They each tackled it from different angles (behavioural, co-design, life-stage, data quality, mandated defaults) but converged on treating different members differently, in a good way. These stories should give confidence to any board that an AI-driven segmentation strategy is feasible and already delivering results in the market. The next section, the roadmap, will build on these lessons to propose a structured way to implement such a strategy, avoiding pitfalls and ensuring alignment with the organisation's goals.

## 7. Roadmap: Transition to AI-Driven Segmentation

Implementing AI-driven segmentation in a pension provider is a significant transformation. It involves technology, people, processes, and culture shifts. To ensure success, we outline a **SMART roadmap** – with Specific, Measurable, Achievable, Relevant, and Time-bound steps – that providers can follow over, say, 18–24 months. This roadmap is broken into phases, each with clear objectives and outputs, aligned to the strategic goals we've discussed (better member outcomes, compliance, growth).




### 7.1 Phase 1 – Data Audit & Quality Improvement (Months 0–3)

**Objective:** Establish a solid data foundation. *"Garbage in, garbage out"* holds true – AI is only as good as the data feeding it. So the first step is to audit what data is available, fix critical gaps, and consolidate member records.

**Key Activities:**

- **Inventory Data Sources:** Catalog all member data sources: pension admin system, HR feeds from employers, customer contact databases, web/app analytics, call center logs, etc. This ensures we know what we have to work with.
- **Data Quality Assessment:** For each data source, measure completeness and accuracy. e.g., what % of members have missing email or phone? How many have outdated addresses (returned mail)? Are there duplicate member IDs? This can be Measured (e.g., data quality score per field).
- **PII and Compliance Check:** Ensure personal data usage complies with GDPR. Set up proper consent capture if needing to gather fresh contact info from members. (This might involve updating privacy notices to include using data for personalized engagement – being transparent from the get-go).
- **Quick Wins – Clean & Merge:** Fix obvious errors (correcting common misspellings in names, updating format of phone numbers, etc.). Use deterministic or basic fuzzy matching to merge duplicate accounts (e.g., match NI number or DOB+Address combos). For example, if John Doe appears twice,

consolidate into one record if sure. Aim to reduce duplicate records by X% (Specific target, say 90% of members should have a single unique record).

- **Enhance Contact Data:** Where critical contact info is missing for many members (often personal email for those enrolled via employers), plan a campaign to collect it. For instance, send a snail mail asking them to register online (thus providing email). Or coordinate with employers to gather missing fields at source. Measure improvement: e.g. increase member email coverage from 60% to 85% within 3 months.
- **Data Governance Setup:** Form a data governance working group (IT, ops, compliance) to own ongoing data quality. Create a data dictionary and standards for future data (Specific deliverable: a Data Governance Charter by end of Phase 1). This ensures Achievability of next steps by having accountability.

**Output/Deliverables:**

- Data Audit Report (document listing data sources, quality metrics, identified gaps – by end of Month 1).
- Data Quality Improvement Plan (by end of Month 2, listing fixes and timeline – and quick fixes implemented).
- Updated member contact database with significantly fewer duplicates and more complete contact fields (Measurable e.g., duplicates down 95%, active email addresses up to 80%+).
- Management sign-off that data is now reliable enough to proceed (perhaps an internal audit check – relevant for governance).

**SMART Aspect:** This phase is Specific (focus on data), Measurable (we'll track quality % improvements), Achievable (most fixes are straightforward or using existing tech), Relevant (foundation for segmentation), Time-bound (3 months).

### 7.2 Phase 2 – Segmentation Strategy & Technology Selection (Months 3–6)

**Objective:** Define the segmentation approach (which segments to focus on, what data model to use) and select the tools or platforms to implement AI analytics and personalised communications.

**Key Activities:**

- **Define Target Segments (Design Workshop):** Convene a cross-functional team (marketing, product, compliance, analytics, operations) to identify priority segmentation dimensions based on business goals and regulatory needs. For example, decide that initial focus segments will be: *Engagement Level* (high/medium/low), *Life Stage* (young saver, mid-career, near-retirement), and *Pot Size* (micro, moderate, large). This matrix might yield, say, 5–10 key member personas. Specific output: a Segmentation Framework document with definitions (e.g., "Low engagement = never logged in, never opted out, no voluntary increase; High engagement = made >2 changes or queries in last year", etc.).
- **Use-Case Prioritisation:** For each identified segment/persona, list potential actions or interventions. Prioritise 2-3 to start with (maybe one for retention, one for upsell, one for service). E.g., "Segment: Near-Retirement & Low Engagement -> Action: proactive retirement options call". Rank by potential impact and ease. This ensures the project stays Achievable by focusing on high-impact quick wins first.
- **Tool Selection Criteria:** Decide requirements for analytics platform: Do we need a Customer Data Platform (CDP) to unify data? What AI capabilities – clustering, predictive models – are needed? Does it need real-time scoring or is batch okay? Include compliance requirements (audit trail, explainability of AI decisions to satisfy regulators). Also consider integration with communication channels (email system, SMS, etc.).
- **Vendor/Build Decision:** Evaluate whether to use an external solution or build in-house. Many providers opt for vendor solutions (like Salesforce Marketing Cloud with AI, or Microsoft's AI platform) to jumpstart. Send RFPs if needed to shortlisted vendors. Alternatively, assess if existing systems (perhaps some analytics tool within current CRM) can be configured. Ensure any vendor chosen has experience in financial services and can handle our data size securely.
- **Proof of Concept (PoC):** If feasible, do a quick PoC with a sample of data using one AI technique – e.g., run a clustering algorithm on 10,000 member sample to see what segments emerge and validate that with business experts ("Does this grouping make sense?"). This will help inform the selection and give early wins. Deliverable: PoC report with results by Month 5.
- **Business Case Revalidation:** Update the ROI model with any new insights from PoC or vendor proposals (maybe cost estimates refined). Reconfirm budgets. This is important to keep leadership buy-in (Relevant to business goals).

- **Select Technology:** By end of Month 6, choose the platform or toolkit. Also plan resources: identify who will be the data scientists or analysts running this, and any hiring if required (maybe hire 1-2 analysts or retrain existing staff by this point).

**Output/Deliverables:**

- **Segmentation Strategy Document** (defining chosen segmentation attributes, initial personas, and priority use cases, ready by ~Month 4).
- **Tool/Vendor Selection** – Decision memo and vendor contract (if external) or architecture plan (if internal build) by Month 6.
- **Pilot Segment Definitions** – A clear rule set or model for at least one or two segments that will be piloted in next phase (e.g., "Segment A: disengaged young savers" identified by certain criteria).
- **Updated Project Plan** – including implementation timeline for the tech and integration, aligned with next phases (Time-bound milestones clearly laid out).

**SMART Aspect:** This phase has a concrete timeline and outputs, measurable in terms of completion of strategy doc and selection. Achievability is maintained by focusing scope (not trying to do all segments at once). Relevance is ensured by linking segment choices to business outcomes.

### 7.3 Phase 3 – Pilot Implementation & Model Development (Months 6–12)

**Objective:** Build and test the segmentation models on a small scale, and implement pilot personalised interventions for selected segments. Essentially, prove the concept in real operation and refine before scaling to all members.

**Key Activities:**

- **Data Integration & Platform Setup:** Set up the chosen platform, integrate required data sources (as identified in Phase 1). Ensure data flows are working – e.g., daily or weekly data updates into the segmentation engine. This might involve IT but by now the data governance work done makes it smoother. By Month 7 or 8, the platform should be live with historical data loaded.
- **Develop AI Models:** Data scientists or vendor teams create the first segmentation models. For example, develop a clustering model that categorises members into, say, 5 clusters using behavior and demographics. Also develop a predictive model for one use-case (e.g., model probability of taking cash at 55). Use the cleaned data for model training. Validate these models – check that resulting segments correlate with known patterns (maybe do focus groups or expert review). Measure model performance: e.g., the predictive model might have an AUC or accuracy metric we can track.
- **Select Pilot Cohort:** Choose a subset of the membership for the pilot – often one employer scheme or a specific age band, etc. For instance, pilot with 50,000 members across a few employers that have diverse profiles. Alternatively, pilot on one segment specifically (like all members over 55 who are 1 year from retirement). The selection should be such that we can measure outcomes within a few months (so near-term events like retirement or contribution changes could be observed).
- **Design Personalised Interventions:** Create the content and approach for each pilot segment. For example, if pilot includes "Segment X: mid-career, decent salary, low contribution", design an email or call campaign that specifically addresses that ("You could retire with £Y more if you up contributions by Z"). If another segment is in pilot, do similarly tailored content. Ensure tone and channels are appropriate as derived from strategy (maybe younger get an app push, older get a call or letter). All content must be reviewed by compliance (because even personalised guidance must remain guidance not advice unless you have advice permissions – hence carefully crafted, general in nature but targeted).
- **Training & Scripts:** Train member-facing teams on the pilot if their involvement is needed (e.g., outbound call team reaching out to those nearing retirement with a script that's segment-specific). Ensure they understand why segment matters ("this person likely has other incomes, focus conversation on

combining"). Provide scripts or guidelines that are SMART in execution (say, each call should achieve certain info delivered).

- **Launch Pilot:** Execute the personalised campaigns for pilot members around Month 9 or 10. For instance, send tailored communications out, start outbound calls, etc., depending on plan. Stagger as needed to manage volumes.
- **Monitor & Measure:** From the get-go, track key metrics: open/click rates of emails by segment vs control (if you keep a control group of similar members who get generic comms, even better to measure lift). Track conversion: how many actually increased contribution, or contacted for advice, or decided to stay in plan at retirement, etc. Also monitor any feedback or complaints – ensuring nothing in personalised comms caused confusion (which can happen if someone thinks "how do they know this about me?" – hence transparency is key, maybe include a line "We're reaching out because we noticed you haven't increased your contributions in 5 years…" which explains the rationale).
- **Refine Models & Comms:** Based on initial 2-3 months results, refine. Perhaps the model identified segment membership well but the messaging didn't resonate for a sub-group. Adjust content or segment definitions. For example, maybe we find that within "mid-career low contributors", there are two types: one responds to tax relief angle, another doesn't – you might split them by known higher-rate taxpayers vs basic (if you have salary info) to tailor messaging. That fine-tuning is exactly the iterative improvement AI enables.
- **Success Criteria Review:** By Month 12, evaluate pilot success against goals. E.g., success criteria: 5% of targeted members took action vs 1% in control – did we achieve that? Or engagement scores improved by X. Use statistical significance where possible. Document findings and lessons.

**Output/Deliverables:**

- **Working Segmentation Model/Algorithm** (the code or configuration that assigns members to segments – delivered and documented).
- **Pilot Campaign Assets:** Copies of tailored emails, call scripts, etc., and their performance metrics.
- **Pilot Report:** Analysis of what happened – e.g., "Segment A increased contribution rate by an average of 1%, Segment B had no change – perhaps adjust approach for B." Include member feedback if any. This report to be presented to the board or steering committee to show progress (Relevant for maintaining buy-in).
- **Green Light to Scale?** Decision point: If pilot shows positive ROI or at least promising engagement, then proceed to full rollout. If not, troubleshoot (maybe data issues remain or model needs overhaul) – better to catch now. Achievable next steps depend on an honest assessment here.

**SMART Aspect:** The pilot is time-bound (done by Month 12), measurable (with defined KPIs), specific in scope, and results-driven. It also helps Achievability by not going big bang – learn small, then expand.

### 7.4 Phase 4 – Full Rollout and Integration (Months 12–18)

**Objective:** Scale the segmentation solution to cover the entire member base and embed it into business-as-usual processes, while maintaining governance and measuring outcomes continuously.

**Key Activities:**

- **Phased Expansion:** Gradually increase the coverage of personalised engagement from the pilot group to larger populations. For example, in Month 13-14, extend to all near-retirees across schemes, in Month 15-16 extend to mid-career across schemes, etc., rather than everyone at once, to manage load. Each expansion can replicate what worked in pilot, with adjustments for segment differences. Ensure operational capacity (if calls are involved) is planned – e.g., staggering communications so that call centre isn't overwhelmed by responses all in one week.
- **Automate Segmentation Pipelines:** Industrialise the process of updating segment membership. For instance, set up a monthly job that re-scores every member into a segment based on latest data (some will move segments as behavior changes or as they age). These segments should feed directly into marketing platforms. If using a CRM or campaign tool, integrate so that segment tags or lists are automatically refreshed. This ensures dynamic adaptation – a core AI benefit.
- **Personalise All Key Touchpoints:** Extend segmentation to all member touchpoints:
    - **Statements and Online Dashboard:** Consider customising what info is shown first. E.g., Segment "low engagement" might get a prominent simple summary and a nudge ("See how little changes can boost your pension"), whereas "high engagement" sees more detailed analytics because they can handle it. This may require working with the web/app development team – it might come in a later wave if heavy IT work. But even simple things like segment-specific inserts in annual statements can be done sooner.
    - **Ongoing Communications:** Align newsletters or educational content to segments. For example, send an investment newsletter only to those who've shown interest (clicked on prior fund info) – others might get a more basic financial wellness tip instead. Over a year, each member receives a "journey" tailored to them (perhaps mapped out as part of strategy).

    - **Employer/Client Reporting:** For trust-based or contract schemes sold to employers, incorporate segmentation results into client reports. E.g., show an employer "we have identified 30% of your workforce as low engagement – we're doing X to help them." This adds value for the corporate client and demonstrates duty of care, aiding client retention.
- **Governance & Oversight:** Formally integrate the new segmentation practice into governance structures. For instance, the Independent Governance Committee (IGC) or trustees get regular reports on member outcomes by segment – fulfilling Consumer Duty expectations. They should review if any segment is lagging. For example, "Segment: women over 50 – engagement remains low and outcomes projected poor; what are we doing?" Then the provider can respond with targeted actions. Document decisions and actions taken, to have an audit trail.
- **Team and Culture:** At this stage, likely new roles or teams are firmly established (a "Member Analytics" team, or similar). Provide ongoing training for service and sales teams so they trust and understand the segmentation approach. Encourage feedback from front-line staff – e.g., if call centre agents say "the leads the model gives me are quality" or "not so much", use that to refine. Also embed segment thinking into product dev: e.g., product managers must fill a template section "Impacted member segments" for any new initiative, to ensure consideration of differences.
- **Continuous Improvement Cycle:** Set up a cadence (monthly or quarterly) where the analytics team reviews outcome metrics and proposes tweaks to the models or strategies. Perhaps A/B test new ideas on a subset each time to keep optimising. For example, in Q1 we test a new message for Segment C to see if it yields better response; in Q2 we might test adding an external data point like credit score into the model to see if it refines predictions. Track these tests and incorporate winners.

**Measuring Success:** Define specific success metrics for full rollout: e.g., **Member engagement index** (perhaps composite of login frequency, queries, etc.) to improve by X% overall, or net promoter score up by Y, or opt-out rates (for new joiners) drop by Z in a year because we better engage them early. Many firms also track **asset retention rate** – aim for an increase (if currently 60% assets retained one year post-retirement, maybe target 70%). Also track **contribution increase rates** annually. These become part of KPIs reported to the board. If off target in some segment, adjust efforts.

Given our ROI model, by Month 18 we might expect to see measurable financial lift (with some variability year to year due to markets). It would be wise to do an ROI review at the 18 or 24 month mark to validate the business case, which sets the stage for possibly further investment (maybe expanding AI use to other areas like investments or using it to develop new products – next frontier).

**Output/Deliverables:**

- **Segmentation Dashboard:** A live dashboard available to relevant staff showing key metrics by segment – e.g., average pot, average contribution rate, % engaging, satisfaction scores, etc., updated periodically. This visual tool will keep the focus on segments in management discussions.
- **Policies/Procedures:** Updated business procedures reflecting segmentation. For example, a "Communication Policy" that states how frequently different segments are contacted through which channels (so we don't over/under-communicate – supports Consumer Duty's fairness). Also perhaps an "AI Governance Policy" ensuring models are reviewed for bias and approved by compliance (especially important if AI decisions could be challenged – we need documentation to show it's fair).
- **Completed Full Rollout Checklist:** A checklist confirming: all relevant teams trained, all major member journeys have at least some segmentation element, all data flows automated, etc. A sign-off from the program lead that initial implementation phase is complete (likely around Month 18). After this, it transitions to "business as usual" with incremental enhancements.
- **Case Studies & Testimonials:** Collect a few success stories – e.g., a member who consolidated pensions after a personalised prompt and wrote in thankful, or an employer who saw improved engagement stats for their staff thanks to your targeted approach. These qualitative wins can be used in marketing and also reinforce internally the importance of the work.
- **Regulatory Submission (if any):** If regulators like FCA request an update or if Consumer Duty requires a report by end of first year, include specifics: "Using advanced data analytics, we identified and proactively supported [X] members in [segment] resulting in [outcome]." This will put the firm in good stead.

**SMART Aspect:** Full rollout tasks have to be managed carefully to meet timelines and avoid initiative fatigue. It's Specific in embedding into each function, Measurable through final KPIs and the established dashboard, Achievable since we've piloted and gradually scaling (not all at once), Relevant as it directly hits strategic metrics, and Time-bound with intermediate and final milestones (like by Month 15 all segments covered in comms, by Month 18 all training done, etc.).

### 7.5 Phase 5 – Ongoing Optimisation and Future Enhancements (Month 18 onwards)

While Phase 4 marks the end of the "project" phase, it's worth noting that segmentation and AI is an ongoing journey, not a one-off project. Post-implementation, providers should:

- **Monitor Outcome Improvements:** Did average pot sizes or contribution rates improve in targeted segments compared to baseline? Are fewer members falling through cracks (like lost contact count going down)? Keep tracking yearly. This ties to the **Consumer Duty annual review** which many firms will do – now through a segmented lens.
- **Adapt to Regulatory Changes:** If/when new rules come (say, the decumulation duty in trust law or a Value for Money rule requiring segmentation of data in disclosures), the provider can adjust models or reporting accordingly. For example, if small pot consolidator is introduced, use segmentation to decide how to deal with those (maybe volunteering to be a consolidator for certain segments).
- **Incorporate New Data/AI Trends:** Possibly integrate pensions dashboard data once live (for example, if you can see other pots, feed that into your segmentation). Or use machine learning to further personalise (like Next Best Action engines that take segmentation to the individual level). Perhaps explore use of **Generative AI** to tailor content tone to each member (with oversight to ensure compliance).
- **International Benchmarks:** Keep an eye on global best practices: e.g., if some Canadian providers invent a new segmentation technique that drastically improves engagement of millennials, consider importing that idea. Or if the Aussie Retirement Covenant results show certain strategies working, emulate those.
- **Member Advisory Panel:** Consider forming a member advisory panel with representatives of different segments to get periodic feedback – ensures the human touch remains and your AI doesn't drift from real needs.
- **ROI Realisation:** By year 3 or 4, present the actual ROI achieved to the board – chances are, if executed well, it will show positive results as forecast or better, reinforcing commitment. That may open budget for further innovation (like perhaps implementing an "advice light" robo-advisor for some segments, etc.).

This roadmap, if followed, positions a DC provider to be **truly customer-centric and data-driven**. The steps ensure not just a theoretical plan but an actionable sequence with quick wins (pilot) and controlled scaling. It also addresses trust – by phasing in and demonstrating success, boards and frontline staff gain confidence in the AI, and members gradually experience better service without feeling spooked by sudden changes. The inclusion of governance steps ensures alignment with compliance and ethics, which is vital in financial services.

In conclusion of the roadmap, by around 2027 (if starting in late 2024 or early 2025), a provider would have a mature AI segmentation capability. They would likely be reaping the benefits: higher member satisfaction and retention, stronger growth from existing client base, and accolades from regulators for innovating in the interest of customers (maybe even industry awards for communication excellence). More tangibly, they would be ahead of peers who didn't invest – in an increasingly competitive and transparent market, that's a significant strategic advantage.

## 8.0 Conclusion and Recommendations

The pensions industry is often stereotyped as slow-moving and impersonal, but the analysis in this report shows that it doesn't have to be. By harnessing the power of AI-driven segmentation, UK DC pension providers can transform both their commercial trajectory and their members' financial wellbeing.

**We began by examining powerful external pressures** – new FCA rules, the coming dashboards, duties around decumulation – which collectively demand a more proactive, personalised approach to member management. Simply put, doing nothing different is not a viable strategy. The cost of inaction would manifest in regulatory non-compliance, continued member apathy, and lost business at the crucial retirement stage. On the flip side, these pressures are also *opportunities* for those who adapt early. A provider that can demonstrably improve member outcomes (through targeted support, higher contributions, etc.) will not only satisfy regulators but likely attract employers and members in an era of greater transparency and accountability.

**We then diagnosed the current shortcomings** in how providers engage members – data scattered and incomplete, communications generic, and member heterogeneity overlooked. It became clear that technology alone isn't a panacea; a shift in mindset is needed to treat members as distinct individuals or groups with specific needs, rather than an anonymous mass. The good news is that modern data science techniques and better data management can bridge that gap, as many leading firms are proving.

**Our deep dive into AI-driven segmentation** illustrated how softer data (behaviours, life events, attitudes) can enrich our understanding of members beyond basic age and balance. AI can find patterns and predict needs at scale that human advisers or one-size-fits-all rules cannot. Crucially, this isn't about replacing human judgement – it's about augmenting our ability to serve each member appropriately. A theme that emerged is *precision*: precision in identifying who needs help, precision in what message will resonate, and precision in timing. That precision translates to efficiency (spend resources where they make a difference) and effectiveness (members get the help or nudge that truly matters to them).

**Quantitatively, the case for action is compelling.** The report's financial modeling shows a clear positive ROI for investing in segmentation and personalisation, with payback potentially in just a few years and sizeable long-term gains thereafter. We estimated a mid-sized provider can add millions in revenue and cost savings annually, on top of qualitative benefits like reduced compliance risk. These are material outcomes that should resonate in the boardroom – especially in a low-margin industry like pensions, where differentiation is hard to come by.

The case studies of **Nest, Aegon, Aviva, and others** provided concrete proof that this isn't theoretical. Those organisations are already on the journey – engaging members via apps and behavioural nudges, co-designing digital experiences with segmentation in mind, tailoring retirement pathways to different needs, and fixing data issues to enable personalisation. Their successes (and even setbacks) offer valuable lessons. Not every provider will take identical approaches, but all can glean that focusing on the member and using data smartly yields results. Moreover, international trends indicate that what is innovative today (like segmentation-driven defaults or communications) may well become expected tomorrow. Providers that lead will help shape regulations rather than be shaped by them.

**The roadmap laid out a practical implementation plan**, emphasizing incremental progress, cross-functional collaboration, and continuous learning. It addresses potential obstacles – such as data privacy, need for cultural change, and ensuring fairness – so they can be managed proactively. Adopting AI in any capacity can raise understandable questions about ethics and transparency. The answer is to incorporate governance from the start: explain to members why you're, for example, reaching out with certain information ("We're contacting you because we care about your outcome and noticed X"). Ensure algorithms are tested for bias (perhaps your IGC or an independent expert can review the approach). When done right, personalisation should feel helpful, not intrusive, to customers. That trust is vital – and likely to be rewarded with deeper loyalty.

In wrapping up, this report offers the following key recommendations to board-level decision-makers:

- **1. Embrace a Member-Centric Vision:** Make improving member outcomes through personalisation a core strategic goal. Set the tone at the top that understanding and serving individual member needs is as important as managing funds and costs. This vision will drive the urgency of execution. Consider articulating it as part of your Consumer Duty commitment – e.g., "Our aim is that each member, regardless of background, gets the communications and support they need to achieve a good retirement outcome."
- **2. Invest in Data and Analytics Capabilities:** Prioritise the foundational investments – consolidate your data, upgrade systems where needed, and either hire or partner for data science expertise. This is the engine of everything that follows. Skimping here will hinder the whole initiative. If budgets are tight, remember the ROI argument and consider reallocating from less effective broad marketing spend to targeted analytics spend.
- **3. Start Pilots Sooner Rather Than Later:** Don't wait for perfect data or perfect systems to begin. Identify a segment or scheme where you can trial personalised engagement in the next 6 months. The learnings are invaluable and build momentum. Quick wins will also help convert any sceptics on the board or in middle management, and they reduce fear of the unknown.

- **4. Embed Segmentation into Governance and Culture:** Insist on regular reporting of member metrics by segment at board meetings or member outcome committees. Ask questions like: "How are our low-balance 40-somethings doing? Are they improving?" This forces the organisation to keep focusing beyond averages. Also empower frontline staff to act on insights – e.g., give call centre reps visibility of a caller's segment profile and suggested approach, making it part of their training. Recognition and incentives might be aligned too (e.g., reward teams not just for overall retention, but for improving retention in typically at-risk segments).
- **5. Align with Regulatory Roadmaps:** Engage with regulators (FCA, TPR) and industry groups, sharing your approach and learning from peers. Regulators have indicated willingness to allow more guidance (AGBR) and want to see innovation. If you can show them that your segmentation efforts are yielding better member decisions, it may influence regulation in your favour (for instance, the FCA might point to your firm as an example of Consumer Duty best practice). Conversely, keep an eye on forthcoming rules and ensure your segmentation model can flex to meet any new requirements (like producing value-for-money data across different age cohorts, etc.). Build that adaptability in.
- **6. Keep the Human Touch:** As advanced as AI gets, pensions are ultimately about human lives and futures. Use AI to enhance human interaction, not replace it. For example, let AI flag who might need a conversation, then have a well-trained adviser or call rep reach out. The combination of data-driven insight and empathetic human advice can be powerful. It's also reassuring to members that there are people behind the tech who care.
- **7. Measure, Learn, Adapt:** Finally, treat this as an evolving capability. Set measurable goals for year 1, 2, 3 (as we did in ROI model). If something isn't working, investigate and tweak. Perhaps one segment isn't responding – maybe the hypothesis was wrong or external factors (like COVID or cost-of-living crises) affect their ability to act. Use the agility of AI to adjust targeting or messaging. Celebrate successes: if you halved the number of lost pots year-on-year, that's a story worth touting both internally and in PR. It reinforces the value of what you're doing.

In a broader perspective, by implementing AI-driven segmentation, a provider can move up the value chain from being a mere custodian of assets to a **trusted retirement partner** for its members. That has long-term benefits that transcend immediate financials – including stronger brand, higher client retention (employers and members), and possibly opening up new revenue streams (like advice services or cross-selling other financial products) because you've earned the right through deeper relationships and data insights.

The window of opportunity is open now. As the pensions landscape becomes more transparent (dashboards) and outcome-focused (Consumer Duty, VFM), those providers that act proactively will establish leadership. They will shape market norms, attract

transfers from less responsive competitors, and be best placed to handle future challenges (like an aging member base needing more complex decumulation support). Those that delay risk being left with a disengaged, shrinking membership and increased scrutiny.

**In conclusion**, the strategic and commercial imperative is clear: invest in knowing and serving your members on a segmented, personal level. The tools are available, the regulatory encouragement is there, and the examples of success are growing. A board that steers its organisation down this path will not only future-proof its business against regulatory and competitive storms but will fulfill the fundamental promise of pension provision – helping each and every member achieve a better retirement. That, ultimately, is the measure of success that matters.

*"The best way to predict the future is to create it."* By adopting AI-driven segmentation, pension providers can create a future where better retirements, stronger customer loyalty, and business success all go hand in hand. It is a future well worth pursuing, starting now.

## APPENDIX A: Financial Model Assumptions and Calculations (Detailed)

*(This appendix provides additional detail on the assumptions behind the quantified analysis in Section 5, for transparency and for readers to adjust figures to their context.)*

- **Member Metrics:** Assumed 1,000,000 members, average pot £10,000 (hence £10bn total assets). Age distribution assumed roughly uniform from 22 to 65 (though in reality skewed depending on provider – but for modelling, we had ~200k in 50+ near retirement, etc.). Contribution: assumed average 5% employee on £30k salary unless increased. These align with UK averages (auto-enrolment minimums, average wages).
- **Default Outflow without intervention:** Based on FCA Retirement Outcomes Review and data around pension freedoms, an estimated 30-40% of pot assets are withdrawn within 5 years of 55 for DC pots. We used 40% for a conservative lost-case scenario. Retention is thus 60%.
- **Retention improvement:** Assumed segmentation could reduce outflows by 25% relative (so if 40% would leave, reduce to 30% leaving – means retention of assets goes from 60% to 70%, a 10-percentage point improvement). In absolute terms for the cohort ~£2bn, that saved £200m assets. This is somewhat cautious; with strong engagement, possible to do better (some providers in US manage ~80% retention in-plan by offering good drawdown products).
- **Contribution increase:** Only 10% of members targeted were assumed to respond with an increase, and that increase was small (2% of salary). This yields a modest uptick in average contribution from maybe 8% total to ~8.5% of salary across population. Realistically, if tools like auto-escalation are introduced, could go higher. But we chose conservative numbers to not overstate.
- **Consolidation take-up:** Assumed 10% of members who have other pots consolidate one, average pot £5k. If ~30% have other pots (which might be plausible from PPI data on multiple pots), that's 300k people, 10% of them is 30k consolidations * £5k = £150m. A stronger campaign might do more – e.g., People's Pension and others have advocated making consolidation easier; if friction is low, maybe 20% would consolidate. But we used 10% as achievable through targeted comms.
- **Fee assumptions:** 0.3% of assets annual charge. Some providers have flat fees or tiered, but 0.3% is a reasonable average net AMC after scheme rebates etc., in modern workplace schemes. If anything, as pots grow the % might drop slightly due to fee caps, but additional AUM generally still brings proportional revenue in our scenario (since fixed costs are relatively fixed, margin improves).
- **Cost savings:** Print/post saving of £2 per member per year if 20% cut was estimated from known costs of annual statements (~£1 each) plus other mailings. Perhaps an underestimate because some providers send quite a lot on paper (could be more like £3-£5/member). But digital migration is already happening, so we used modest figure. Call cost saved roughly at £5 each,

avoiding say 20k calls = £100k. Many unknowns, but we kept totals in few hundred thousand range for conservatism.

- **Project Costs:** £1.5m upfront includes software (~£500k for a mid-tier solution, or internal development costs) plus data cleaning effort and integration. Ongoing £500k covers 3-5 staff (a small analytics team and some IT support, maybe £300k) plus software licenses (£100-200k) and cloud costs. These could vary widely; some large providers might spend more. But as a fraction of, say, annual admin budget, it's not huge.
- **Discount rate for NPV:** 5% nominal used (roughly a real terms 2-3% plus inflation). If a firm's hurdle rate is higher (like 10% for projects), that would lower NPV but our ROI was still positive under reasonable rates. If using 0% (public service or non-profit perspective), then obviously ROI looks even better.

One can plug in their own member counts and assumptions to scale these results. The key is that even under quite cautious assumptions, benefits outweighed costs in steady state.

## APPENDIX B: Regulatory Heatmap Diagram

*(This appendix would include an illustrative diagram if in a visual format; here we describe what Figure 2.1 in the main text encapsulates.)*

The Regulatory Heatmap (Figure 2.1) visually maps each major regulation on a two-axis grid: one axis for Timeline (immediacy: e.g., in-force now vs coming 2025/26) and another for Impact Level on segmentation need (low, medium, high). Unsurprisingly, Consumer Duty and AGBR are plotted as high impact and near-term, Pensions Dashboards medium-high impact (and mid-term), Decumulation duties high impact but slightly further term (2025/26). Each is color-coded: green where the regulation explicitly encourages personalised support (AGBR), amber where it implicitly requires it (Consumer Duty, dashboards), red if failure to adapt poses risk (Consumer Duty also red in that sense).

Accompanying the heatmap, we included in Table 2.1 a detailed breakdown per regulation of what it means. The intent is to provide a one-stop reference for boards to see why each regulatory change matters and how segmentation helps address it. If this were a delivered report, this table might be footnoted or elaborated with official references (like FCA policy statements, etc.) to reassure that our interpretations are grounded. For brevity in the main text, we gave inline cites and such.

## APPENDIX C: Full Bibliography


1. **Sackers (2023)** – *"What does the Consumer Duty mean for pension scheme trustees?"* – Katie Whitford, Sackers blog, July 2023. Describes Consumer Duty scope and implications for pensions.
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7. **Pensions Age (2024)** – *"Value of lost pension pots hits £31.1bn"* – Sophie Smith, Pensions Age, Oct 2024. Cites PPI survey finding 3.3m lost pots, average ~£9.5k, total £31bn (up 60% since 2018).
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10. **FCA Retirement Outcomes Review (2018)** – (Not directly cited above but informing context) Found 94% of non-advised drawdown consumers stayed with their accumulation provider, but many in cash unnecessarily – highlighting inertia and need for guidance.
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12. **PPI Briefing Note 138 (2024)** – *"Lost Pensions 2024"* – Pensions Policy Institute, Sep 2024. Confirms lost pots at 3.287m (2024) vs 1.62m (2018), average lost pot £13.6k for age 55–75. Helps quantification of consolidation potential.