



Banking on Behavioural Science

Commonwealth Bank of Australia
Case Study [October 19, 2023]

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1. Introduction

Despite the fact that every organization is fundamentally in the business of behaviour change of its many stakeholders, not many organizations have successfully embedded behavioural science into its DNA. One exception is the **Commonwealth Bank of Australia (ASX: CBA)**, or **CommBank**, a leading provider of personal banking, business, and institutional banking, and share broking services in Australia.

CBA’s Behavioural Science unit has driven hundreds of millions of dollars in customer, business, and societal outcomes, won a range of international awards, and worked to develop cutting edge research outputs and customer-facing industry innovations. Today, the team is far from alone; in banking, there are impressive counterpart teams at banks such as **Toronto-Dominion (TD) Wealth, Lloyds Bank, JPMorgan, and National Westminster (NatWest) Bank**. Like many, the CBA story is neither simple nor linear. Starting out as an experiment of its own, at a time when applied behavioural science was new, and through various hype cycles and false starts, the team has reinvented, reshaped, and carved out a strong international reputation. Today, the team comprises around 25 staff, and around 35 research partners in three different continents. The unit has much to look forward to, as it continues to grow and reinvent the model of what a modern full service corporate behavioural science unit could look like. Figure 1 portrays the evolution of the team since its inception, highlighting exciting milestones.

Figure 1. The evolution of the CBA Behavioural Team.



2. Back to the Beginning: Before CBA

The year 2011 was a different time for applied behavioural science. Concepts like **Nudge** were just starting to gain traction in business fields, and the book **Thinking Fast & Slow** by Nobel laureate **Daniel Kahneman** had not yet been released. Behavioural units were scarce in any sector, and even the UK Government, which is now a pioneer in the field, had just launched their own **Behavioural Insights Team (BIT)** as an experiment with a short sunset clause to self-fund the unit. Opportunities in behavioural science roles were limited, and the Sydney market was no better.

William Mailer, having recently completed his M.Sc. program at the **Centre for Decision Research and Experimental Economics (CeDEx)** in Nottingham, returned to Sydney and noticed the lack of opportunities in the field. He initially joined **PricewaterhouseCoopers (PwC)**, a global accounting and consulting firm, where he quickly connected with **Jason Collins**, a PwC manager. Their shared passion for behavioural science sparked an immediate partnership, leading to the establishment of the PwC Behavioural Economics practice. They also formed the **Sydney Behavioural Science Network**, which eventually grew to include 4,000 members. The launch of the BIT Sydney office (the first behavioural unit on the ground in Australia) helped generate further interest in the country. The team at PwC went on to win PwC's global innovation award and expand their reach with the inception of satellite teams in Toronto and London.

3. The CBA Experiment

In 2016, Mailer was speaking at a local event, and was approached by a Senior representative from CBA's newly formed Financial Wellbeing team. Around the same time, Collins was coincidentally approached to establish a similar team at a financial services regulator.

Mailer joined CBA on a six-month contract, serving as a trial period to demonstrate the value of behavioural science. Amidst the rising support for behavioural science, some approached its capabilities carefully. The CBA's behavioural science team was set up as a type of experiment in itself, at time when the Bank was looking for new and more effective ways to accelerate their financial wellbeing mission. The team's differentiating factor lay in their unwavering commitment to an evidence-based approach, encompassing meaningful measures, scientific rigor, and a laser focus on driving positive financial behaviours, surpassing mere literacy or information provision.

The team's early efforts came from a lot of “knocking on doors” to find groups in the bank that had interesting problems, the aptitude for experimentation, and the data. Mailer initiated tactical trials nationwide to showcase the power of behavioural science. Trials included reducing “did not attend” (DNA) rates for financial health check appointments, redirecting staff bonuses towards rainy day savings, and supporting customers to repay debt.

The team got promising results through these trials, gained an internal following, received early press coverage, and formed valuable partnerships. A community started to grow around CBA, as well as connections with other banks, particularly in the UK. This collaborative approach led to major financial well-being innovation projects with government entities, regulators, community groups, and banking experts.

In addition to existing collaborations with the BIT, the team achieved two notable partnerships: one with **Behavioural Economics Team of the Australian Government (BETA)** and the other with the **Sustainability Transparency Accountability Research (STAR)** Lab at Harvard, led by Professor **Michael Hiscox**.

4. The Growth and Acceleration

Through a collective effort, the team showcased the differentiated value unlocked by a behavioural lens, demonstrated tangible impact, and garnered widespread support and recognition both internally and externally.

Consequently, Mailer was offered a permanent contract and received approval to start hiring, indicating the unit's value to CBA. At a conference in Boston, Mailer connected with **Rafael Batista** from the **Busara Centre for Behavioral Economics**. Recognizing Batista's expertise, CBA brought him to Sydney to help in growing the team. Aligning with their commitment to applying behavioural science, the team established a range of behaviourally informed practices to make sure they were “taking their own medicine.” This included de-biased recruitment processes, leader speaks last meeting formats, and regular pre-mortem exercises for major initiatives. In their first recruitment wave, the team recruited six staff members from five continents, including some incredible talent that may not have been as easily identified through traditional HR processes. Much of the team's early success can be attributed to the fantastic range of diversity in backgrounds, experiences, and skillsets that the team was able to bring together at this time.

Over the course of the next three years, the team experienced growth and maturity. They further developed partnerships, produced a range of research outputs, and began creating proof of concepts for new types of products. During this time, they were able to

demonstrate tangible outcomes for customers and for various business lines, attracting attention internally and externally.

A pivotal moment in the team's history occurred when they launched an ambitious financial wellbeing event. The idea was to move the bank away from just being a consumer of behavioural science, but to also being a co-producer. The event brought together senior executives from CommBank, eight Harvard professors, and partnering researchers. It comprised 35 behavioural innovation workshops and roundtables business teams, researchers, community groups, regulators, and advocates, aiming to prioritize and design breakthrough interventions and innovations in financial services that were informed by behavioural science. The team addressed important issues such as debt reduction, building savings, product choice and utilization, retirement planning, benefit claiming, measuring wellbeing, and implementing experimentation models and internal interventions like diversity, equity and inclusion (DEI) approaches. The outcome of these workshops was an extensive list of ideas, from which a number of impactful projects were prioritized. This includes a collaboration with **Ryan Buell** and **MoonSoo Choi** on operational transparency, the world's first Financial Wellbeing Scales, several projects with **John Beshears**, and the prototype of an innovative offering called the Benefits Finder, a tool that allowed customers to find and apply for benefits and rebates that they might be entitled to. These partnerships not only generated ground-breaking ideas but also paved the way for new projects in the domains of financial wellbeing, climate action, and internal employee behaviours. These innovations, the partnership, and the ramp up in activity caught the attention of national media outlets and international peer banks.

Over time, the unit gained more media attention, group recognition, and industry experience, which led to approvals for further team expansion. They successfully recruited exceptional talent from various parts of the world, including the UK, US, Australia, Mexico, Netherlands, and Kenya. As the team matured, they refined their ways of working. Engagement models, project prioritization scoring, recruitment processes, and team positioning and profile evolved and were codified.

The unit transitioned from a charge model based on timesheets to a centrally funded entity, benefiting from stability and new flexibility to identify priority behavioural opportunities. They formalized their partnership with the Harvard STAR Lab for research collaborations. A significant achievement was the development of a world-first shared research platform, enabling researchers from renowned institutions around the world to work within secure CBA data environments. Currently, the team collaborates with over 35 researchers from leading research institutions globally through this innovative research collaboration platform. This platform could potentially be scaled up to conduct mega-experiments to address questions like financial capability, questions that went way beyond any one financial institution.

The team operates across the entire spectrum of behavioural solutions, incorporating a wide range of approaches. They employ behaviourally informed incentives, boosts, and sludge removal strategies. Meanwhile, recognizing the importance of domain expertise in areas such as hardship, financial abuse, and problem gambling, the team avoids overstating the potential of behavioural science alone. They view behavioural science as a valuable lens and tool, working alongside traditional approaches such as incentives, education, pricing, and mandates. In pursuing tailored recommendations, the team implements a range of tactics, from subtle changes in copy, websites, and call scripts to impactful initiatives that reshape choice environments and address systemic factors (S-level changes). These strategic interventions encompass aligning bill dates with wage deposits, facilitating more frequent pay cheques, reducing or eliminating fees, and leveraging AI to prioritize opportunities for customers.

5. Twists and Turns

As with any new unit, the team has been through numerous changes and growing challenges due to organizational and industry shifts. Despite this, they have consistently adapted and refocused to maximize their impact on customers and collaborate effectively with partners and stakeholders. Being relatively small within a broader workforce of 49,000 employees, the team has been careful to prioritize the right opportunities to have the most positive impact possible. The team looks for those opportunities that have a clear behavioural element at their core, which are scalable to large populations, feasible to implement, and which help to improve customers' financial lives in important ways.

Carlos Vazquez (Lead, Behavioural Research and Innovation) articulated the process used to prioritize what the team works on. “The decision is made collegially; there's a forum where everyone can express an opinion. The projects that get prioritized have three characteristics. First, there must be a clear business problem that needs to be solved. Second, that we have the capability to do it. Finally, the project should make a contribution to applied behavioural science more generally.”

6. The Modern Team

Around 2021, the team rebranded from CommBank Behavioural Economics to CommBank Behavioural Science to reflect its diverse network, team composition, and expanded scope. The team currently has 25 members, and works with 35 research partners in 8 universities across 3 continents (**Figure 2**).

Figure 2. The Current Team



Source: William Mailer and Andreas Ludwig

Apart from its growth in size, the team has experienced expansion along two key dimensions:

1) Background and expertise: It has been particularly fortunate in attracting exceptional talent, moving beyond the days of hiring economists and social psychologists to now include field experimentation experts, lab managers, statisticians, data scientists, AI experts, economists, psychologists, neuroscientists, business / consulting / strategy experts, and commercial leads. It has evolved into a hybrid team comprising Ph.D. students and postdocs (in-house), practitioner partnership panels (allowing the team to flex with demand while working under the team’s model or bringing approved suppliers into the team), and global research platforms (Harvard, Chicago, Sydney, Melbourne, UTS, Macquarie, and Toronto). The team is now a member of the **Behaviourally Informed Organizations** network (at **BEAR, University of Toronto**) and the **Global Association of Applied Behavioural Scientists (GAABS)**.

2) Project focus: With support from senior leadership and changes in Group mission, the team currently focuses on a) climate action; b) financial health and digital banking; c) scams and fraud prevention; d) next generation customers’ needs from financial

services; e) new innovations in experimentation and partnerships; and f) support for critical national challenges (e.g., COVID, cost of living).

Despite rapid expansion, the team maintains scientific rigor by following strong ethical guidelines based on literature and global counterpart models. It employs rigorous methods such as replication hackathons, pre-registration, and multi-context trials. Its resources prioritize developing robust methodologies and scaling promising findings within the business. The team's commitment to research integrity and evidence-based strategies is reflected in publications and co-publications in leading international journals. **Andreas Ludwig** (Principal Behavioural Science) emphasized the importance of a focus on rigour; "A very successful initiative is bringing academics in to give presentations on latest research in behavioural science to a wider audience. The exposure to actual research from the researcher (rather than reading a press report or summary) is highly valued by executives across the bank. Our pipelines to create evidence in large scale lab and field experiments allows the team to test the scientific insights directly in an Australian or specific bank context."

Ludwig is not the only one to put the spotlight on the scientific approach.

"The behavioural economics unit at CBA is different to the many others that have been established by other banks around the world simply because it puts an emphasis on the science. Its major projects have to be good enough to be published in peer-reviewed scientific journals" (Australian Financial Review, 2019)

Today, the team actively collaborates with global counterpart teams, local community groups, governments, regulators, advocates, etc. It takes a leadership and cooperative approach in industry, supporting other behavioural units to establish and grow. They keep pushing the boundaries of applied behavioural science, propelling innovation to new heights.

7. Next Era - Broader Focus, New Tools

Today, the world has several hundred behavioural units across a range of sectors, looking at a range of behavioural challenges in commercial and societal contexts. The structure of these units is contingent upon various factors, including operating models and strategic focuses. Some units are situated within a particular vertical (e.g., financial services), while others are integrated into broader capabilities (e.g., data analytics or customer experience). Moreover, the home base of a unit may evolve over time as it progresses. For the behavioural science unit at CBA, it started its life in the digital business line of the retail bank and now resides now within a "Decision Science" business domain within the CBA, which also comprises AI, data science, and analytics capabilities. The team's proximity to the AI and data science teams in CommBank

presents unprecedented opportunities, enabling and accelerating the development and testing of new AI tools and interventions to help customers with more tailored services, enhance safety, and build trust. As **Dan Jermyn**, (Chief Decision Scientist) emphasized, *“At CBA, our singular focus with AI is to build a brighter future for our customers and communities. That’s why we see our behavioural science and data science capabilities as two sides of the same coin: our innovation in AI has to be measured through the lens of what it means to the humans who interact with it, driving better outcomes when theory is put into practice.”*

Several exciting and impactful projects have been completed and published, while others are underway. Table 1 presents a list of the team’s behaviourally driven projects, showcasing their reach and impact, and Figure 3 provides images for the app interfaces for some of these innovations.

Table 1. Selection of the team’s behaviourally driven projects.

Project Goal	Project Description	Project Link
Navigate Benefits Identification (Benefit Finder)	Steer customers to valuable benefits and rebates, reducing complexity. Achieved \$1B+ in claimed benefits.	https://www.itnews.com.au/news/cba-customers-find-1-billion-in-benefits-590814
Visualize Financial Habits (Cash Flow View)	Generate monthly breakdowns of income, spending, savings, and investments for customer financial control.	https://www.commbank.com.au/digital-banking/cash-flow-view.html
Automate Transaction Notifications	Provide immediate mobile feedback on spending.	https://www.commbank.com.au/digital-banking/transaction-notifications.html?ei=transnotifications
Measure Financial Well-being	Spearhead research into developing a consumer-driven definition and measurement of financial well-being.	https://melbourneinstitute.unimelb.edu.au/data-tools/tools/financial-wellbeing-scales
Encourage Debt Payment	Utilize categories, gamified interfaces, windfalls, and pre-commitments to accelerate debt repayment.	https://finhealthnetwork.org/research/financial-health-solutions-using-tax-refunds-for-debt-repayment/

Understand Budgeting Behaviour	Leverage representative data to uncover insights into budgeting behaviours and beliefs.	https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3739543
Promote Staff Interventions	Initiate nudges for staff savings, benefits uptake, and DEI.	N/A
Facilitate Bill Predictions (Bill Sense)	Help customers anticipate major upcoming bills.	https://www.commbank.com.au/digital-banking/bill-sense.html
Improve Operational Transparency	Empower customers with decision aids for optimal product choices.	https://www.hbs.edu/faculty/Pages/item.aspx?num=55134
Match Financial Events	Launch an app feature to align home loan repayments with salary payments for better cash flow and financial outcomes.	https://www.commbank.com.au/articles/newsroom/2022/02/CBA-app-feature-home-loan-repayments.html

Figure 3. Sample behavioural innovations.

Benefits Finder:

The screenshot shows three stages of the 'Benefits Finder' app:

- Questionnaire:** A screen titled 'Which concession cards do you have?' with a 'Log off' button. It lists options: Pensioner Card, DVA Gold Card, Health Care Card (checked), Seniors Health Card, State Seniors Card, and I don't have one. A 'Next' button is at the bottom.
- Results:** A screen with a green checkmark stating 'We've found 58 benefits you may be eligible for.' It features a card for 'Low Income Household Rebate' with the text 'Get up to \$285' and 'Save money on your electricity and gas bill if you hold an eligible concession card'. A 'See all benefits' link is below.
- Claim Page:** A screen titled 'Claim the Low Income Household Rebate' with a 'Log off' button. It states 'You could get a \$285 rebate per year to help lower your energy costs.' It includes 'Save' and 'Share' options, a 'Claim now' button, and a 'Remind me' button.

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Source: <https://www.commbank.com.au/digital-banking/benefits-finder.html>, accessed Oct. 17, 2023

Cash Flow View:

The screenshot shows two views of the 'Cash Flow View' app:

- Monthly cash flow:** A bar chart showing data for Mar, Apr, May, Jun, and Jul. The values are: Income (\$5,000), Savings (\$2,100), Spending (-\$1,800), and Investing (-\$1,100).
- Spending:** A bar chart showing monthly spending from Mar to Jul. The values are: Mar (\$1,840), Apr (-\$1,543), May (-\$2,812), Jun (-\$4,703), and Jul (\$1,300). Below this is a detailed breakdown for July:

Category	Transactions	Total
Travel	4 transactions	-\$560.00
Groceries	5 transactions	-\$300.00
Eating out	10 transactions	-\$290.00
Shopping	1 transaction	-\$150.00
July Spending		-\$1,300.00

Source: <https://www.commbank.com.au/digital-banking/benefits-finder.html>, accessed Oct. 17, 2023

In March 2022, the CBA Group broadened its stated purpose to include focus on supporting the national economic recovery, reimagining financial services for customers, and turning more attention to major global challenges like climate action and financial scams (on top of an ongoing commitment to financial wellbeing). The team adapted its strategic priorities to align with these broader ambitions and developed new and specialist research relationships in support. They also put a heightened emphasis on the scalability and generalizability of their behaviourally informed solutions, aiming to reach the most representative population.

This focus became more critical when the team noticed significant discrepancies in the financial literacy test (Lusardi 3) results across audience groups in their own study: internal bank audience scored 100%, while customers scored 30% (national survey) to 50% (participant cohort). This suggests that many organizations may not have an accurate view of how people from different communities are managing money and developing financial strategies, which can lead to misidentifying the highest priority financial interventions or needs. The team's observation calls for attention to contextual factors when developing and evaluating interventions, cautioning against assumptions that what works in one setting will automatically be effective in another.

To be a driving force in promoting sustainable financial behaviour, the team leads a national longitudinal study in partnership with Macquarie University, focusing on Australian young adults. They are also developing a research portfolio in collaboration with Harvard STAR Lab, assisting customers in reducing carbon footprints, offsetting carbon activities, and investing in new climate-friendly technologies.

8. Towards the Full Stack Behavioural Science Unit

The team's success can be attributed to a number of factors, including: a) an exceptional talent pool united by a shared vision (concerted and genuine focus on financial wellbeing); b) top-down support from early on; c) diverse talents (geographies, training, etc.); d) dynamic and experimental culture at CBA; e) solid infrastructure (time, space, technology); f) effective partnerships (Harvard, BEAR); g) an organisation with scale / reach; h) early successes with major national flagship innovations (Benefits Finder \$1 billion milestone).

With its reset, broader remit, and continued results, the team is growing again and building out skillsets in new spaces: AI, Data Science & Analytics, Ethnography, Design, Experimentation & Statistics, and Behavioural Science. The team is also in the process of developing a multi-speed experimentation model to be able to match speed and rigour with business challenges and stages of programs, including a new experimental lab partnership (University of Technology Sydney), incentive-compatible online surveys,

exploratory analyses (ethnographic and data), natural quasi-random designs, randomized controlled trials, lab-to-field designs, and megastudies.

In this increasingly complex world, the team equips itself with both technologies and visions to serve the CBA Group's 16 million customers, contributing to the Group's mission of building a brighter future for all. Understanding the prevalence of the intention-behaviour gap, the team continues to innovate and refine methodologies that can help customers help themselves along their financial journeys. With the success of digital tools like Benefits Finder, the team keeps experimenting, launching, and iterating new features that not only address but also anticipate financial needs for its 8.6 million digitally active customers. These endeavours have reinvigorated the century-old CBA Group, playing an indispensable part in establishing CBA as a digital banking leader who has claimed multiple coveted awards and recognitions, including:

- Canstar Bank of the Year Digital Banking (13 years in a row)
- Forrester Overall Digital Experience Leader (6 years in a row)
- Best Major Digital Bank (5 years in a row)
- Most Innovative Major Bank DBM Australian Financial Awards (5 years in a row)

As with the field of applied behavioural science, the team had started solving last mile problems but over the years had developed the expertise and gravitas to address critical first mile problems. As Mailer reflected on the successes and the evolution, he could not help but wonder what additional capabilities the team would need to build, what metrics the team should develop to measure the impact of behavioural science in their work, and what larger and more strategic challenges his team should attempt to address next.