Open Banking for Financial Health

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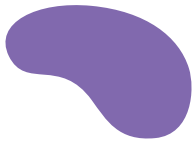
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COMUZI

Impact
on **Urban**
Health

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Context

In 2021, Impact on Urban Health commissioned design agency COMUZI to answer the question, **'How might we make use of Open Banking technology to improve the financial health of people on low incomes with health conditions?'**.

The 18 month research project was co-designed with organisations that work with local residents in Lambeth and Southwark – Stockwell Partnership, Fair Money Advice and Shelter London – with input from independent consultant Bailey Kursar.

In the first phase, the team worked to understand the financial needs of local people living with multiple health conditions. In the second phase, they selected Open Banking apps that could address these needs and ran a 74 day trial of the apps with a group of residents, completing a diary study to gather feedback.

Executive summary

To understand the financial needs and wants of the residents of Lambeth and Southwark living with multiple health conditions, we started our study with a series of biographical interviews. By asking questions about the participants' financial lives and health issues, we were then able to map how financial stress and health problems were interrelated for this group.

Through this process we came up with six key themes for the financial issues faced by the local community: **Money Management, Shopping Around, Housing Standards, Maximising Income** (for example, through benefits and grants), **Debt Management** and **Savings**.

We then tried six Open Banking apps that were free to use, and that claimed they could help with one or more of the above theme,: **Snoop, Money Dashboard, Plum, Lightning Reach, Credit Ladder** and **Nous**. We also offered participants the option to select the prepaid card app **Hyperjar**. Fifteen local residents completed a 74 day trial, each person testing two apps each.

Key findings

1.   Some apps were useful, particularly account aggregators

We found that there were measurable impacts on financial wellbeing from using some Open Banking apps including an increase in savings, better cash flow, and understanding of financial management. As a result, participants reported feeling 'more positive going forward' and that their financial goals are within reach.

Snoop was the most popular app for participants and nine out of 12 people who used it expressed an interest in continuing use after the study. The other app most participants would continue to use was Plum (four out of five). These two apps were, for the most part, able to meet participant needs of

managing finances, reducing outgoings and saving.

We found there was demand for account aggregation and insights from our participant group. They are looking for an app that is not just a simple budgeting tool, but also provides information and guidance on how to improve their financial situation while still being easy to use and understand. We were told that the app should also provide accurate and reliable information and avoid false hope or unrealistic recommendations.

One participant was excited to understand their spending by linking all of their accounts together. After setting up their apps for the first time, other participants told us how valuable they found having an holistic overview of their finances, along with budgeting insights.

> *"I love seeing the deeper dive data analysis allowing me better insight to learn about my habits, alongside working with my frugal goal oriented nature to improve, e.g. more easily seeing where I spent more than my income." – Asma, talking about Snoop*

> *"Its month-by-month feature, which shows how much income and outgoings I've had, is the most realistic version I've used in terms of seeing those numbers, and that actually has allowed me to see genuinely how much income I have." – Ellie, talking about Money Dashboard*

2. Some accounts couldn't be connected

While there was demand from our participants for a holistic view of their finances through account aggregation, there was frustration from one participant that Open Banking technology did not allow them to connect non-bank accounts. When setting up *Money Dashboard*, this participant wanted to add *Tide* (a prepaid account for small business customers) and Paypal (a digital wallet), neither of which could be added to their dashboard.

For marginalised groups such as migrants, not only may there be prepaid card accounts and digital wallets that are in heavy use, but foreign bank accounts may be still in use. At the moment, Open Banking's limited reach may make these services less valuable for consumers in these circumstances.

For example, one participant noted how on Snoop they were unable to connect their *Monzo* pots whereas on *Money Dashboard* this was possible.

> *"It doesn't see the money in my Monzo pot, so it doesn't actually have an accurate reflection of how much I do have." – Ellie, talking about Snoop*

3. There were concerns about data access and use

When introducing participants to Open Banking technology and apps, we needed to address several questions from participants about data privacy, and about how the apps would use their data.

When setting up the apps, some participants who selected *Snoop* had concerns about how much access *Snoop* was getting to their data, and complained that it was not transparent how the app was using their data.

> " Connecting to my bank account was invasive." – Robin, using *Snoop*

Participants setting up *Money Dashboard* had similar concerns. Stephen's initial gut reaction to the app was, 'Is my money safe?'. Another participant was worried by the prominent payments feature in the app.

> "The payments feature scares me, I don't like how much access it would give and not sure why I would need it – but it's quite a big chunk of the app." – Ellie, using *Money Dashboard*

This same participant went on to explain their concerns about data privacy and use as they were using *Money Dashboard*.

When connecting accounts to the app, one participant wanted to connect their joint account, where most of their bills are paid, but their partner's concerns about data privacy prevented them from connecting this account. Not having their joint account connected really limited the value of the app for this particular participant.

4. Apps should be better tailored to user circumstances

We found that not all apps were helpful for our participant group.

Recommendations from apps were not always appropriate for this audience. For example, a money saving tip like 'walk instead of taking the bus' can work well for a person who has the time to do it, and when their health condition is improved by the extra exercise. But someone who might be disabled, exhausted by the walk or who is already flat out trying to get from one job to another, can interpret the same tip as a reminder of the lack of control in their lives. In these circumstances this kind of message can have an adverse effect on mental health.

When using *Snoop*, some participants felt that the offers being suggested were not bespoke to their situation, and were therefore unhelpful or irrelevant.

> "It's not helping at all. It is unable to provide me with 'cheaper deals'." – Robin, using *Snoop*

> "It's suggesting a lot of offers, a lot of which I click on and can't work out what the offer actually is, or are just completely irrelevant to me (pet insurance, home insurance, to open another current account/ credit cards I don't want)." – Ellie

In other cases our participants found apps to be difficult to use or had usability issues that prevented them from using the features. For example, one participant was unable to validate their identity with Hyperjar to set up an account.

For *Money Dashboard* and *Lightning Reach Portal,* participants generally found these apps to be too simple, lacking interesting features and not suitable to their situation.

Looking at the profiles of participants who would not continue to use Open Banking apps, one observation which is common between these participants is that they identified as having both a mental health condition and being neurodiverse. We do not want to draw any further conclusion from this combination of multiple long term health conditions as it was a small study, but further research into this topic could help make Open Banking more inclusive.

5. Some business models felt manipulative

Of the apps we selected for our participants to choose from, there are a range of business models in use. Snoop is free to use but pushes offers and deals to its users and earns a commission on some of these. Money Dashboard is free to use but sells on anonymised data to market research companies. Plum has a free tier for users but pushes a monthly subscription fee for premium features.

> "I wanted to compare the basic plan (my only option lol) to the paid ones. Not showing the projections similarly for them was very jarring. You get pulled into a subscription against your will due to the inconsistency" - Asma using Plum

6. Some important use cases aren't covered

For some participants, one quote rang true: "You can't budget your way out of poverty".

For these participants, we were unable to suggest Open Banking apps that were freely available, and can help maximise income through benefits and flexible work– or even help with paying down debt. At the time we selected the apps to trial, we were not aware of any such apps or services that were free to use and open to the public.

We also found that housing and rent support is a key concern for our target audience. Housing conditions were often poor and a common financial goal for participants was to save for a deposit to move out of their current home and into better private rented accommodation. Open Banking and other Smart Data could help to tackle this use case, but at the time of the study we were unaware of any relevant apps on the market.

7. Human support was helpful

We found that our participants, all of whom live with health conditions and are on low incomes, benefited from support setting up the apps and did not see the benefits of using the apps until the last weeks of the study.

Our research team was available to answer questions and help with technical difficulties. This human support gave our participants confidence and meant they kept going with the apps rather than give up when they encountered issues early on.

8. Awareness of Open Banking was low

We found that most participants said they didn't know anything about Open Banking apps before the study, but agreed that these apps had helped their capability around financial matters improve.

In terms of raising awareness in our target audience, we heard from participants that truthful and realistic marketing messages would engage them best compared to overzealous marketing messages which 'promised the world' and delivered results below expectations.

Meet one of our participants, Mo

Mo is unemployed. He has dyslexia and dyscalculia which gives him anxiety when it comes to numbers and managing finances. This becomes more challenging as his finances are not in a stable place since losing his full time job. His financial goals include writing off debt, having better cash flow, saving money towards a mortgage deposit and feeling less anxious around numbers.

"Money management and managing my finances has an effect on my security, sense of control and , stability, as well as keeping up with any debt - it causes in my life."

Recommendations

Stakeholder group	Our recommendations
1. Policy makers Regulators and Government	2023 is a pivotal year for Open Banking, Open Finance and Smart Data as policy makers decide how these initiatives will move forward. Our recommendations to this group are: **1. Add more data sources** We found that participants needed to connect accounts that were not available through Open Banking to make the most of app features (for example, *Tide* and *Paypal*). Policy makers should bring these data sources into the Open Banking ecosystem to make features more useful, particularly for underserved user groups who do not bank in a traditional way. **2. Be mindful of concerns about data access and business models** We found that participants were concerned about how their data was being used, and sometimes felt that the app business models were manipulative. Policy makers should be mindful of these concerns when considering initiatives like a trustmark. They should also consider how changes to Open Banking's funding model whereby apps and services pay a fee to access data could impact business models, potentially forcing companies to monetise in new ways that could discourage low income user groups from using the technology. **3. Ensure accessibility of Open Banking APIs** We found that some important use cases matching our participants' financial wants and needs were not covered by apps and services on the market. Income maximisation and debt management were two examples where more Open Banking features could help low income and vulnerable groups. Policy makers should ensure that any new Open Banking funding model keeps APIs accessible for social enterprises and charities that want to use this technology to help those in need. **4. Encourage social impact use cases of Open Banking** We found that apps and services available today were not always suitable

for our low income participants living with multiple health conditions. Policy makers should encourage innovation around social impact use cases by organising innovation sandboxes and providing grants. They should also facilitate collaboration between commercial players in the ecosystem and social enterprises and charities to ensure social impact use cases are funded sustainability and rolled out to as many users as possible.

1. Work with relevant groups to promote your apps

We found that our participants had not heard of or engaged with Open Banking before our study. Engaging in our study, particularly through local partners such as Fair Money Advice, Stockwell Partnership and Shelter, helped them trust and benefit from these apps.

Apps and services should work with relevant charities and community groups to promote themselves, providing specialist support through content and outreach. By doing so, these apps will be used more frequently by those on low incomes and in vulnerable circumstances and should have a greater impact on society.

2. Be honest about how your features can help

We found that our participants were sometimes frustrated by promises made but not fulfilled by marketing claims.

Apps and services should be mindful that over-promising in their marketing can lead to a loss of trust in users, particularly those that are less trusting generally in financial services, such as vulnerable users.

3. Redesign onboarding journeys to acknowledge personal circumstances

We found that apps were not designed to tailor recommendations or features to our participants' circumstances. This led to frustration and anxiety when recommendations were not relevant, particularly due to the user's personal health and financial situation.

Apps and services should consider how to create a smooth onboarding experience that also acknowledges the user's personal circumstances, allowing the experience to be tailored, particularly where features could be irrelevant for users who experience health problems or are on very low incomes.

Apps and services should collect enough information to understand if offers and recommendations for insurance, loans and other financial products are suitable before offering them.

Fair Money Advice recommends to avoid the 'selling' of credit services and paid for features to people already on low income facing financial distress.

4. Give users control over notifications

We found that the number of notifications from apps as well as the content of those notifications sometimes caused anxiety and frustration.

Apps and services should ensure users have a clear way to control the notifications they receive from the app.

5. Consider tone of voice

We found that some recommendations through in-app content or in notifications felt inappropriate for our target audience. Content was sometimes perceived as alarmist or condescending by our participants.

Apps and services should make sure the tone of voice for their content considers how all user groups will perceive them, including those in more vulnerable circumstances. Employing designers and copywriters from diverse backgrounds can help ensure that consideration is made for these lived experiences.

3. Banks

ASPSPs

1. Serve your vulnerable customers by offering relevant Open Banking apps

We found that our participants had not heard of or engaged with Open Banking before our study, but in some circumstances found that using these apps improved their financial capability and resilience.

Banks should support their vulnerable customers by promoting relevant Open Banking apps and services. Banks could offer these apps and services through their own online platform, through customer support channels or promoted on their website or social media.

Banks should consider entering commercial arrangements with some social impact-focused apps and services to ensure they are sustainable as well as to work in partnership to track customer outcomes.

2. Fund ESG initiatives to spread awareness

Banks should fund initiatives with charities and local organisations to train staff on how to help beneficiaries benefit from Open Banking technology.

4. Charities and local community groups

Such as Stockwell Partnership, Shelter and Fair Money Advice

1. Train staff to help beneficiaries discover and use Open Banking apps

We found that our participants had not heard of or engaged with Open Banking before our study, but in some circumstances found that using these apps improved their financial capability and resilience. Having access to human support through our study helped participants stick with apps long enough to see benefits.

Charities and local community groups should invest in training staff to use Open Banking apps and services, and in how to coach beneficiaries to use these themselves.

5. Researchers and funders

Such as COMUZI and Impact on Urban Health

1. Research the impact of Open Banking for those with multiple health conditions on a bigger scale

We saw that the participants that did not continue using Open Banking apps tended to identify as having both a mental health condition and being neurodiverse. However, our small study was unable to draw firm conclusions here, or to conclude that Open Banking apps led to long term financial health benefits for participants.

Further research is required. We would like to see a larger scale study on these topics which includes both qualitative and quantitative analysis. We would like such a study to include specific analysis on how these apps and services are experienced by those living with neurodiversity and mental health conditions.

2. Research commercial opportunities around social impact use cases

We found that there were no freely available apps and services that claimed to help people with income maximisation around benefits, or with paying off debt. We believe there to be a gap in the market that has been difficult for companies to fill because of the perceived lack of commercial opportunity.

Research into commercial models around social impact use cases could help companies to recognise these opportunities and launch new apps and services.

3. Fund research partnerships to access those with lived experience

As *The Future Development of Open Banking in the UK* report, published February 2023, notes, the industry should, "work with charities and consumer groups to undertake research with people with lived experience of vulnerability". This study is one such piece of research, bringing together local community partners to provide access to people with lived experience.

Further such research is required. When designing future studies, researchers should look to partnerships with local community charities and organisations who can help them see how Open Banking apps and services are used by real people, day-to-day.

Workshop and entry points to making change

To complete this work, we presented our insights to an audience of Open Banking and Compliance professionals, designers, innovation consultants, Journalists, Councillors, local community-based charities, and financial advisory services.

This session has representation from Nationwide, Citizens' Advice, CO-OP, OFGEM, The Building Societies Association, The Financial Times, The Stockwell Partnership, Fair Money Advice, AQUA Finance, and more.

During this insight presentation, COMUZI conducted two workshop activities with the group:

1. Thinking through the barriers to delivering our recommendations and ways to implement them

2. Create commitments and identify entry points for others to improve what Open Banking can do for vulnerable communities: in this case people with low incomes and multiple long-term health conditions

1. Barriers to delivering our recommendations and ways to implement them

We had thirteen recommendations for working to inform five stakeholder groups [Policy Makers, Open Banking apps and services, Banks, Community Organisations, Researchers, and Funders].

Working across six groups, workshop participants collaborated to analyse selected recommendations to inform us of pitfalls to avoid and methods of implementing them.

Group 1 focus
Policy Makers Recommendation 1.2: Be mindful of concerns about data access and business models, especially when considering funding models.

Group 1, posed questions to highlight opportunities to achieve an ethical, sustainable, and proactive Open Banking sector.

Group 1 Questions:
- "Navigation of different worlds"
  How might we create sustainable business models that are not manipulative?
  The group wanted to challenge the industry to reimagine how it could deliver open banking services to vulnerable customers.

- How might we align business needs with customer needs?
  How can we demonstrate the value to creditors?

Can we present a business model which incentivises creditors to see supporting vulnerable customers as part of their ESG strategy?

- "The value is how we link with products and services that are preventive." Group 1 member How might we maximise this insight to ensure we design services where the warning signs are picked up early enough and through a constant preventative approach?

- Question: Can Open Banking provide help without people proactively looking?
  How do we get people to come earlier?
  Insight: Parents are the main source of financial advice given to children.
  Can we benefit from educating communities earlier? Can we do this through partnerships and collaboration to encourage a slow rise?

Group 2 focus
Policy Maker Recommendation 1.3: *Ensure accessibility of Open Banking APIs when considering funding models.*

A suggestion from Group 2 was to lower costs and barriers to access/play with Open Banking.

In addition to this Group 2 identified Open Banking could play alternative roles within a product or service. A proposed approach is to think of Open Banking as an enabler of personalised support not a primary focus for digital tools.

An example of how this could be realised is through using the Open Banking API and integrating it into an AI-driven service, making suggestions to people to replace spending with lower-cost or free options.

Group 3 focus
Open Banking App and Services Recommendation 2.1: *Work with relevant groups to promote your apps, e.g. local charities and community groups.*

Group 3 supported more collaboration outside the Finance Industry to demonstrate the value of Open Banking. Some suggestions included:

- » Can we put Open Banking in the public consciousness?
  Can we have museums highlight Open Banking services on sites/newsletters?
  Can we have an exhibition to introduce Open Banking to wider communities?
  Can we reimagine how people engage with museums offering micro-incomes or credit boosting for visiting the exhibition? [This is an alternative approach to paying to visit a premium exhibition which currently happens]

- » Can we leverage the Open Banking API to recreate "PARDNA" type user-owned financial sub-structures?

Note: A pardna is a group of individuals who contribute a fixed amount of money at regular intervals, such as weekly or monthly. Each member takes a turn receiving the total amount contributed, with the order of payout typically determined by drawing lots or some other agreed-upon method.

Pardnas are often used as a way to save money and access credit, particularly for those who may not have access to formal banking institutions. By contributing regularly to the group, members can build up a lump sum of money that they can use for large purchases or unexpected expenses.

However, pardnas also require a high level of trust among members, as there is always a risk that someone may default on their contributions or disappear with the payout.

This is a demonstration of how Open Banking could be applied to pre-existing value propositions, supporting communities to improve trust and reduce risk through transparency.

Group 4 Focus
Bank Recommendation 3.1: *Serve your vulnerable customers by promoting relevant Open Banking apps.*

Group 4 also had considerations around Open Banking and its suitability for extremely vulnerable communities. This is because this work produced an insight that said Open Banking was currently unsuitable for providing meaningful support to those who are in "deep poverty".

Group 4 asked how you incentivise bigger banks and institutions to care about marginalised and vulnerable communities.

We understand Open Banking can help those with "a little extra" but Group 4 began to ask how do you support people in "deep poverty"? They used one of our case studies Amber for inspiration exploring how Open Banking could support people like them.

Suggestions included:
1. Being aware of the psychological reality vulnerable communities live through to be able to provide more considered support.
2. Empowering charities to signposts to Open Banking tools and services which could address some of the symptoms of their distress.
3. Similar to Group 1, Group 4 also encouraged banks to think about how we can use Open Banking as a tool to provide proactive support to its vulnerable clients.

Bank Recommendation 3.2: *Fund ESG [Environment and Social Governance] initiatives to spread awareness, and train local charities and community groups.*

Group 4 highlighted that for this recommendation to be implemented well Banks needed good contact and engagement with policymakers and local community and charity groups to reach the right people.

This group also highlighted how this ESG funding approach could help facilitate other recommendations in this work including Policy Maker Recommendation 1.4 and Charity and local community Group Recommendation 4.1

- » **Policy Maker Recommendation 1.4:** Encourage social impact use cases of Open Banking through sandboxes and grant support.
- » **Charity and local community Group Recommendation 4.1**: Train staff to help beneficiaries discover and use Open Banking apps.

Group 5 focus
Open Bank and App Services Recommendation 2.1: *Work with relevant groups to promote your apps, e.g. local charities and community groups.*

By working with highly connected groups within the community Open Banking and App services can benefit from the network effect to engage hard-to-reach members through relationships and recommendations.

To get the maximum impact of the recommendation above it is encouraged to engage and convene all the different stakeholders as a part of the development and promotional process.

Group 6 focus
Policy Maker Recommendation 1.3: *Ensure accessibility of Open Banking APIs when considering funding models.*

A proposed implementation of this can be seen below. Integrating open banking to become value-added points with this fintech companies service.

Implementation
Aqua Coach integration – link to Open Banking as part of credit building journey.
Draft User Benefits:

- » Gives users a better understanding of their spending habits.
- » Celebrate the moments.

Policy Maker Recommendation 1.4: *Encourage social impact use cases of Open Banking through sandboxes and grant support.*

Group 6 proposed this recommendation be prioritised to raise awareness and establish a better understanding within the community of Open Banking products on the market.

Charity and local community Group Recommendation 4.1: *Train staff to help beneficiaries discover and use Open Banking apps.*

Group 6 wanted to highlight key considerations for training charity and local community groups to engage in this work.

Considerations:

» Train advisers – aware of benefits but also limitations. Lots of clients have negative budgets or do not have Smartphones / Data.

» Advisers especially debt advisers are very busy and short-staffed, they may not have the time for more training e.g. meet targets. How might we engage them now we have an insight into an advisor's circumstances?

2. Commitments and entry points for others

At the end of the session, we asked workshop participants to document their next actions and commitments in improving Open Banking's inclusivity for low-income individuals with long-term health conditions based on our insights.

We have thematically categorised these actions and commitments and listed them in ascending order of effort to implement.

For readers of this report, we believe that these could be meaningful starting points to make changes within the Open Banking industry for this vulnerable audience.

Starting Points to improve Open Banking experiences for Low-income communities with multiple long-term health conditions include

Education and awareness:

- Provide free educational content to aim to prevent poor money management in the future.
- Share benefits with creditors and demonstrate the value.
- Helps users understand the benefits of Open Banking and create features to help them stay in control of their finances easier.
- Empower the user to be more aware of their spending.
- Learn more and see how Open Banking options can be implemented in the financial well-being projects that I will be working on.

Learning and sharing:

- Learn and share to ensure more people are receiving the help they need.
- My commitment to Open Banking is to gain a better understanding of the services and solutions Open Banking Aggregators provide, and how they support individuals to promote use and benefits to friends and families within my community.
- Learn/play with apps like Snoop and then share my experience.
- Keep using digital platforms to ensure more stories are told in the mainstream media.

Bring co-design into Open Banking:

- Surface benefits of Open Banking early on in their onboarding journey.
- Co-design, co-design, co-design: Examine ways to bring new apps and Open Banking to the groups we are trying to serve.
- Help users understand the benefits of Open Banking and create features to help them stay in control of their finances easier.
- Further, maximise the inclusiveness of the Open Banking System as it develops.
- Support start-ups to use Open Banking to reduce financial stress for non-financial users.

Predictive analysis and assistance:

- Make an effort to forecast when a customer might risk getting into debt, provide assistance upfront, and avoid people getting into a higher-risk situation for their finances.

Other initiatives:

- Create thoughtful/micro-interactions that celebrate customer wins in their credit journey, e.g., credit score increase.
- Gamification – rewarding for positive improvements made to the credit points system "gain x points for making positive action".
- Further research into life journeys.
- Design open-source financial inclusion and education tools for the prevention of financial instability across the whole spectrum of society.

Case Study

We have used a pseudonym in this case study.

One of our participants was Claudia, a Black woman in her mid-fifties. She has a chronic illness and a physical disability. Her son and husband depend on her financially since her husband fell ill a few years ago and they went from two incomes to one. Since then, she feels anxious about creating a budget as the trauma of dealing with this sudden drop in income is still fresh in their minds.

"Some of the main things I struggle with is budgeting and also trying to save some money, which would be really be nice, but it is a struggle when most of the responsibility is on one person."

Currently her income is less than their outgoings and she has lost a lot of sleep worrying about and dealing with finances.

She sees financial stability as two things, what she can achieve realistically, but also what feels unrealistic:

"Realistic financial stability would look like being debt free, having a good amount of savings in the bank and some investments. That would be an achievable financial goal."

"A Slightly unrealistic goal would be being debt free, rent free, and almost bill free.."

On why it's unrealistic, this is what she said:
"Most people who have financial stability you will find have quite a reasonable income, and they don't have the challenges that someone like myself has had over the years. I think that's the main thing that challenges your income, education, and knowledge. I think if I'd known half the things I know now, I would be rich."

For this study she chose *Snoop* and *Lightning Reach Portal* to try out.
Talking about *Lightning Reach Portal* she says: *"It might help some people to get out of a tricky situation, but for financial stability, it wasn't suitable for me because I think it was targeted at somebody who possibly had nothing, but not somebody who just needed that little help up. I was just curious to find out if there was any help for someone like me who only works part time, but I couldn't find anything."*

Talking about *Snoop* she says - *"Absolutely fantastic. I loved it and I think it's helping me to reach my financial goals because it's constantly keeping me on track. Every week it sends me information about what I'm doing, what I'm spending. In fact, I was really shocked at how much I'd spent in the last two years. I've actually put a tiny bit of money away, not a lot, but the fact that I managed to put a few pounds away was a big difference compared to what I did before."*

"One of my main financial goals is to be debt free and not having to worry about how much money I can spend or how much I have saved. I'd like to think that my income will generate income in the future. My main goal is ensuring that my son has the same kind of financial concepts that I'm hoping to develop, and he doesn't end up in the same kind of processes that I have when it comes to money."

Methodology

This work has been commissioned by Impact on Urban Health in partnership with COMUZI, Bailey Kursar and third sector organisations

COMUZI have designed and run the study in collaboration with the organisations listed above, and with insights on Open Banking from independent consultant Bailey Kursar. Stockwell Partnership, Fair Money Advice and Shelter have been involved in designing the study and recruiting participants, and will benefit from insights that can be used to impact their day-to-day work at the end of the process.

Impact on Urban Health are focused on improving health in inner-city areas by understanding and changing how inequalities impact our health.

COMUZI is a company that specialises in designing products and services to bring healthcare, technology, media and sustainability to diverse communities across the globe.

Bailey Kursar, an independent Financial Consultant.

Stockwell Partnership specialise with working with the local Portuguese-speaking population in their neighbourhood.

Fair Money Advice a pan-London debt advice and financial inclusion charity.

Shelter London whose London advice line offers free specialist advice on housing issues across all London boroughs.

All partners participated in the co-design of the project and study, and contributing their expertise to act as a steering committee to enhance the quality and ensure the safeguarding of the project.

We worked with our partners to identify who they serve and the typical financial and health issues faced by the people they help (Spring 2022). Here are some examples of a typical user:

- Diverse ethnic communities
- Susceptible to multiple long-term health conditions
- Regularly relies on food banks and other similar types of support
- Relies on family and friends to cover some costs
- English language barrier
- Over indebted
- Low or irregular income

This project explores how Open Banking can improve the quality of life for those living in poverty with one or more health conditions.

The primary aim of this study was to ask people on low incomes with one or more health conditions to trial Open Banking apps so that we can measure whether the apps are effective in helping with financial stress and related health issues.

Our findings hope to inform decision makers about how Open Banking could be improved to help consumers in vulnerable circumstances.

All of the participants in both phases of the study live in Stockwell or Lambeth.

Overall, we wanted to answer the following questions:

- Q1. What financial problems do our audience have that could be solved with Open Banking?
- Q2: What are the measurable impacts on financial wellbeing from finding those apps useful, i.e. increase in savings, better cash flow etc?
- Q3: What impact on health outcomes has come about as a direct/indirect impact of improved financial wellbeing?
- Q4: When trialled with the audience, do they find these existing Open Banking solutions /apps useful enough to keep using after the trial?

In Part 1, we looked to answer Q1 by understanding the community. We did this by:
- Conducting an ethnographic walk around Stockwell with a member from Stockwell Partnership
- Carrying out 11 in-depth one-to-one interviews with people with health conditions on low incomes

Some people we spoke to were unemployed, had problems with housing, and one or more long-term health issues that created extra expenses for them. We describe this group of people as being in **deep poverty**. Their dominant challenge is a sheer lack of money and support, and the root cause of their problems are often systemic.

But many participants had a small amount of discretion over what they spend and when – even if this is only a few pennies here and there – or timing of one or two payments. We describe these as people **with a little extra**.

Financial Stratergy	Relevent to
Reduce debt	All participants.
Increase Income	All participants.
Save and invest	Only to those with a little extra; people in deep poverty have nothing to save.
Manage finances	Only to those with a little extra; people in deep poverty have no discretion about what to spend and when.
Improve Credit	Only to those with a little extra; people in deep poverty are getting into worse debt and see their credit scores decline.
Reduce	Only to those with a little extra; people in deep poverty have reduced all their outgoings and have nothing left to cut.

Informed by the results of Part 1, Bailey Kursar analysed over 100 Open Banking apps to create a shortlist of 7 apps that could potentially provide help with the six financial strategies.

In Part 2, we answered questions 2, 3 and 4 by tracking people's experience with apps. We:
- Recruited 15 people living with health conditions on low incomes to take part in a diary study
- Refined our shortlist of apps to reflect what had become available
- Offered participants their choice of two apps from the shortlist of seven
- Ran a study over 11 weeks (74 days) that tracked their experiences with their chosen apps
- Did detailed analysis of large quantities of qualitative and survey data to explore and understand their reported experiences.

Recruitment (Spring 2022)

For part 1 and part 2 we worked with the same demographic criteria. This included residents living in Lambeth or Southwark, people of working age, on a low income with a focus on speaking to people from the Black community or other ethnic minorities, in particular people from the Portuguese speaking community. In addition to this, we also spoke to people who had one or more of the following:

- Chronic illness
- Physical disability
- Mental health condition
- Neurodiverse

We worked with our partners to identify who they serve and the typical financial and health issues faced by the people they help . They also supported us in recruiting participants by reaching out through their channels.

Some examples of the conditions our participants lived with included chronic pain, depression, aspergers, deafness, COPD (chronic obstructive pulmonary disease) and PTSD (post-traumatic stress disorder). During the interviews participants often spoke about further conditions or symptoms they hadn't previously stated during recruitment.
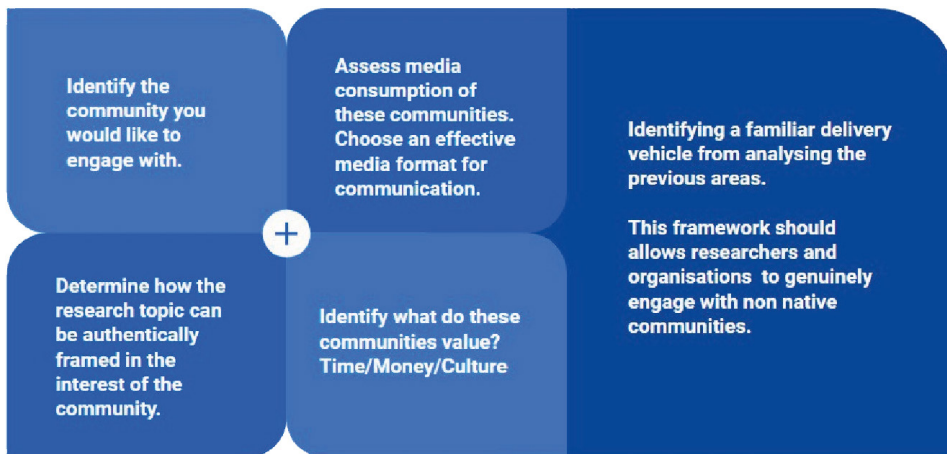
All of our participants were on a low income, but the effects of that were variable. For example, a single adult living on £400 a week might have more disposable income than a family of 4 living on the same amount. At the same time, another single adult living on £400 a week might have significantly higher outgoings such as rent.

So instead of asking how much their household income was, we asked a set of questions that might determine their financial situation.

To recruit participants for this work COMUZI and partners used its Connecting with Communities as a framework to successfully recruit participants for this work.

The framework

Identify the community you would like to engage with.

Assess media consumption of these communities. Choose an effective media format for communication.

Identifying a familiar delivery vehicle from analysing the previous areas.

This framework should allows researchers and organisations to genuinely engage with non native communities.

Determine how the research topic can be authentically framed in the interest of the community.

Identify what do these communities value? Time/Money/Culture

COMUZI

Connecting with Communities Framework (COMUZI, 2018)

This ensured our recruitment assets were in a language and style that resonated with the type of community we wanted to engage in this process. This meant translating our screener survey, flyers and email copy to Portuguese and making sure the language we used throughout was sensitive and mindful to the nature of the project.

Gostaria de testar uma aplicação financeira durante 100 dias?

A COMUZI está a trabalhar em parceria com a Fair Money Advice, Stockwell Partnership e Shelter London para explorar como ferramentas digitais específicas podem ajudar pessoas com baixos rendimentos a melhorar as suas finanças, saúde e bem-estar.

Estamos à procura de 15 pessoas para participar num estudo pago de 100 dias, onde os participantes irão testar uma aplicação para descobrir se ela é útil ou não para os seus próprios objetivos específicos.

Para descobrir que aplicação lhe pode ser útil e para demonstrar o seu interesse, visite o seguinte link:

A Recruitment Poster translated to Portuguese (COMUZI,

For part 2 our approach was similar but we also wanted to identify specific people who had a financial goal in our identified areas of;

- Saving and investing,
- Managing finances
- Improving credit score
- Reducing outgoings
- Reducing debt, or
- Maximising income

We created new assets but also re-contacted participants from the one-to-one interviews to see if they'd like to re-participate. Our partners supported us again with reaching out to their service users.

Ethics

For part 1 of this project we carried out both an ethnographic walk around Stockwell and 11 one-to-one interviews. In part 2 we carried out an 11 week diary study which consisted of weekly surveys, two-weekly diary entries and individual exit interviews.

COMUZI and partners worked to ensure our process was equitable by:

- Paying participants for their time
- Offering in person, virtual or telephone-based interview sessions
- Asking people whether they would prefer any interviews or content to be in Portuguese (helped by the Stockwell Partnership)
- Understanding that people are experts of their lived experience and how it can be improved.
- Being intentional and clear on the objectives of the work, so they were equal stakeholders.
- Being clear about our safeguarding policy during all research sessions with participants to ensure the psychological and physical safety of everyone involved.

We also had available resources for participants about free legal and financial support services in their local boroughs in case those issues were raised during the project.

Participants

All of the people who participated in this project were facing various challenges, whether financial or not, and individual and unique situations. Having said that, we were broadly able to categorise them into the two groups we described on page 14 - those in **deep poverty**, and those **with a little extra.**

To give you a better idea of some of the people who participated in this study, here are two personas based on our participants for the diary study:

Kim (a little extra)

Kim has challenges with renting and would love to be able to get on the property ladder. However, high rent, an irregular income and a mental health condition has made it difficult for her to start saving towards this goal. Her financial goals include increasing her income (by upskilling and applying for higher paying jobs), building savings and being able to support her family

"I would love tools that help us be savvy about the [financial] systems. Like insider knowledge and financial literacy those experts on YouTube share. . It just feels so daunting trying to understand on my own and life is too time consuming to focus on learning as much as I need to."

Amber (deep poverty)

Amber has ADHD, is experiencing a mental health crisis, and is on a low income. They just want to be able to get by and not feel stressed about having enough money to cover the essentials.

"I've been experiencing a mental health crisis since June. This is partly related to my financial situation. I think about how little money I have every single day. Every time I spend money, it's a huge panic."

Participants for the one-to-one biographical interviews:

Criteria	We hoped for	Recruited
Lambeth / Southwark	6:6	7:4
Age	Good spread	Good spread
Female / Male	5:7	8:3
Black + Other Ethnic Minority	9	6
Chronic Illness	3	4
Physical Disability	4	4
Mental Health Condition	4	6
Neurodiverse	1	1
Portuguese	3	3
Low income	12	11

We recruited 15 participants to take part in the diary study:

Criteria	We hoped for	Recruited
Lambeth / Southwark	15	15
Age	Good spread	No 55+
Female / Male / non binary	5:7:0	10:4:1
Black + Other Ethnic Minority	>10	11
One or more health conditions	4	13
Neurodiverse	1	6
English as a Second Language	5	2

Defining a low income

All of our participants are on a low income, but the effects of that are variable. For example a single adult living on £400 a week might have more disposable income than a family of 4 living on the same amount. At the same time, another single adult living on £400 a week might have significantly higher outgoings such as rent.

During the recruitment process we asked the below questions to determine their financial situation.

- Do you have difficulty managing your finances?
- Do you have multiple debts or need support with debts?
- Are you in arrears with any of your priority outgoings, such as rent or council tax?
- Does your income cover your outgoings?
- Do you regularly rely on family and friends for financial support?

Phase 1: Biographical interviews

Ethnographic walk in Stockwell

COMUZI conducted a walk around to meet local community groups in Stockwell.

We were accompanied by a member from Stockwell Partnership who took us around some of the main areas of the location and where we got to meet and chat with some of the locals.

Based on this walk and our observations, we came up with a persona of a typical person who might live in Stockwell. We called her Juliana.

Juliana, 34, recently arrived in Stockwell from Madeira.

Before arriving, she had already found a place to stay in London through asking friends and family. They allow her to sleep on their sofa for a few months while she finds her feet. The financial strain on the family is minimal, as they put her in touch with Neto, who operates a business helping new arrivals settle in and find work.

She gets a cash-in-hand job in a salon, so is able to pay her way and contribute to the household right away.

Juliana speaks some English but doesn't see study as worthwhile as she can spend more time earning, which is a good short-term strategy. She has also found out about a part-time cleaning opportunity which will allow her to save and rent a room.

She doesn't trust that the local council will be able to help her - they're moving people out of the area from what she's heard - so she wants to make her own opportunities.

She needs further help setting up a bank account, proof of address, and getting a phone.

Currently, the combination of living in cramped living arrangements and standing for long hours is stress and anxiety-inducing. She doesn't know what to do about it and puts those thoughts to the back of her mind.

Juliana is typical of the people with **'a little extra'**. Although money is tight for her, she has some choices about whether to take on some more work or to think about studying. Her situation is stressful and that may reduce her ability to make good choices.

Creating this case study allowed a snapshot into 'a day in the life of' a typical resident and to identify some challenges and opportunities that Open Banking might be able to address. For example, a challenge might be opening a bank account and an opportunity might be starting off with good money management habits.

One-to-one interviews

Even though all our participants were on low incomes, we found that they broadly fell into two aforementioned categories:

Deep Poverty   These participants have incomes that are well below what they need. They may have higher outgoings because of the expense of managing their extra needs due to their health conditions, but their income has not adjusted upward to reflect that. They have no spare money at all and may also be in increasing debt. They constantly struggle to pay even for the most basic and urgent needs such as rent and food.

A little extra   These participants are also on very low incomes and have health conditions, but they have a small amount of discretion over what they spend and when. Although they cannot afford any luxuries, they are usually able to pay for just enough food and their rent.

We've highlighted some cases where participants fall into these categories throughout this report.

Using the COM-B framework

COMUZI used the COM-B framework to provide a more comprehensive understanding of human behaviour and inform ourselves about the drivers behind our participants' lived experience. COM-B means capability, opportunity, motivation and behaviour.
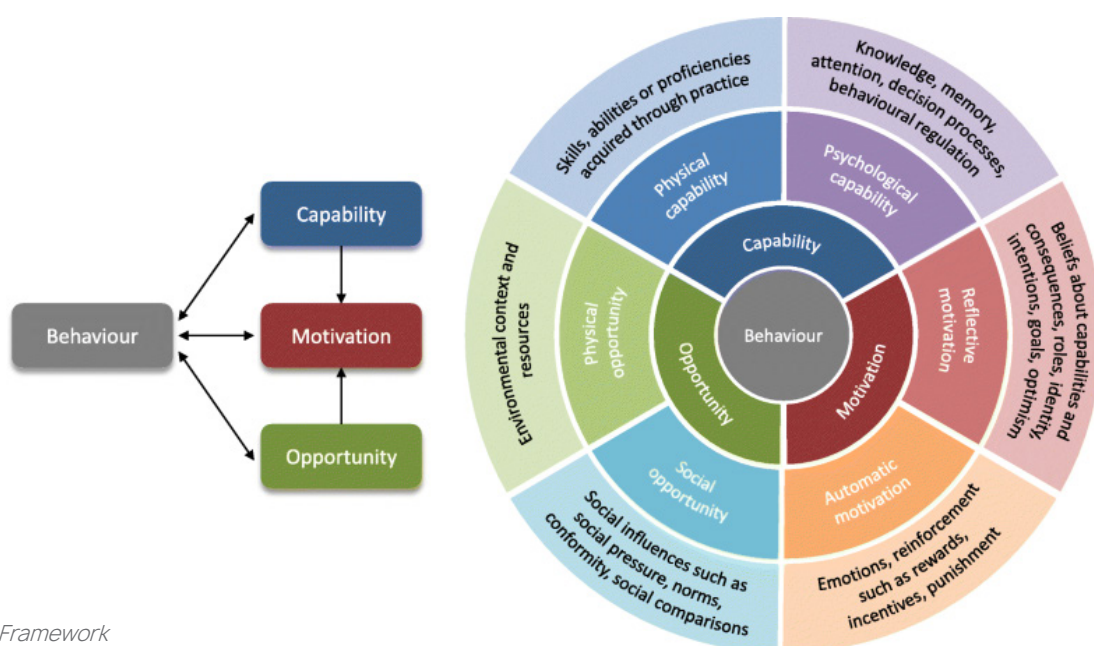
COM-B Framework

Capability

The low income of the participants, combined with health conditions that prevent them from working, limit their capability to manage their finances effectively. The participant's ability to manage their finances is further impacted by their limited access to support and financial resources.

Opportunity

The lack of opportunities for employment and income generation, along with the high cost of living, makes it challenging for the participants to maintain their financial stability. The limited access to support and resources also limits their opportunities to manage their finances effectively

"It feels like you're screened out... you're both working, why can't you pay your way?"

Respondent 4 (a little extra)

Motivation

The stress and worry about money, the feeling of being 'stuck', and the guilt associated with relying on support from others impact the motivation of the participants to manage their finances effectively. The stress of managing their finances also affects their mental and physical wellbeing.

"Payday comes and you just know...we've still got payments that are outstanding" -

Respondent 1 (deep poverty)

Behaviour

The participants adopt various behaviours to manage their finances effectively, such as budgeting, tracking expenses, shopping around for deals, and relying on family for support.

Some cope with the stress of their financial situation by keeping busy or relying on trusted family and friends to hold their money.

Some participants mentioned using apps: *Too Good to Go, Income Max* [Fintech but not OpenBanking], *Vinted* and *GumTree*, because of the opportunities they provided participants to save or get access to goods at reduced prices.

"I try to record everything I spend" - R11 (a little extra)

Key themes

1. Some people have bad housing and not enough money

Rent was the biggest financial worry for many, which resulted in long overdue repairs and replacements getting de-prioritised. Addressing challenges with housing and earning enough to meet monthly bills were central to many of our participants' financial, physical and psychological well being.

> *"You feel stuck...even if you want to move, I know I'm not going to be able to get a contract for a good place"*

For housing specifically the cost wasn't just financial - we heard about various interconnecting issues that arise from it. Some participants had feelings of being 'passed around' when seeking housing support, which negatively impacted their mental health.

> *"Feels like you're getting passed around. You don't even know who I am, what I'm ringing about... You could be on the phone for over an hour. And I still need to pay my phone bill. If that gets cut off, I have no way to communicate with anyone." - R9*

2. It's expensive to have a health condition

The impact of having low income alongside multiple long-term health conditions means that it disproportionately costs more to live.

> *"People don't consider, with benefits, that when you have a health problem it costs more and it penalises people. It doesn't make sense for these products to be more expensive. ... Why should I be punished all over again?" - R8*

- Due to health conditions, many were unable to work (or find suitable work) leaving them feeling stuck and like there's 'no way out'.[Lack of capability impacting our participants opportunity and motivation]

- Some have had to sacrifice income due to stress, while others sacrificed something they enjoyed for something a bit more stressful but more financially stable. [Reflective motivation impacting our participants behaviour]

- Young people, including carers, are directly and indirectly under pressure to look for jobs that can fulfil immediate family needs (flexible hours, local, etc), which has a direct impact on their earning potential in the long-run. This can perpetuate financial issues, while adding increased mental strain to overcome challenges [Reduced opportunity impacting our participants physical capability and autonomic motivation]

3. Money management is not as simple as just managing money better

For a lot of our participants, It wasn't just deciding between essential vs privilege, it was often deciding between essential vs essential.

"Every day money is a worry" - R1 (deep poverty)

- "Heating or eating" dilemma was often expressed by our participants
- Food often ends up low on the list of priorities. Some participants sacrificed meals and 'drank water to keep full' to ensure bills were paid.

"I drink a lot of water, that fills me up" - R9 (deep poverty)

- We tended to hear this from people who identified as having one or more anxiety disorders, most commonly:

  » Agoraphobia/panic disorder - not always able to leave the house to go to a food bank for instance (especially if/when locations change, adding further stress and anxiety around getting there/unfamiliar routes, etc)

  » Social anxiety - it can be hard to apply/ask for support with essentials due to a fear of being negatively evaluated. Can increase a desire to buy first-hand, resulting in missed meals

  » Technophobia (sometimes coexisting with learning difficulties) - limited to relying on friends/neighbours/family

Conclusions

To wrap up phase 1, we needed to answer 'What financial problems do our audience have that could be solved with Open Banking?'.

"You can't budget your way out of poverty " - Respondent 8

From carrying out the ethnographic study and conducting the one-to-one interviews we were able to get a better understanding of the types of financial challenges faced by the community we were engaging. Our next step was to highlight areas that could potentially be addressed with Open Banking.

Although some of the biggest challenges faced by our participants were insufficient income and issues with housing, we don't believe Open Banking would be able to address these areas.

But we did find six financial strategies from our interviews where we consider Open Banking might help. These are:

- Debt reduction
- Income maximisation
- Save and invest
- Manage finances
- Improve credit score
- Reduce outgoings

Phase 2: App trials and diary study

The tables below highlight health related risk factors, their financial related issues and an app or service which could possibly address it.

Initially we mapped health related risk factors to finance related issues to identify potential apps in these areas. After identifying that specific fintech apps might not be able to address certain concerns such as housing problems or increasing income, we then adjusted these headings to the six financial strategies mentioned earlier in this report.

Manage finances → more visibility and control of finances
Shopping → reduce outgoings
Living standards →improve credit score
Maximising incomes →income maximisation
Debt →reduce debt
Savings → Save and invest

Manage Finances		
Health-related risk factors	**Finance-related issues**	**Apps/services and promised outcomes**
Social isolation, loneliness, feelings of worthlessness "If you don't have a job and you're staying in the house - it gets lonely and you are left with your own thoughts." **Bipolar disorder** • Impulse spending **Caring responsibilities** • Unable to put self first • Looks after the bank account for the person they care for **Anxiety** "Sometimes with bills - easier to avoid. Some days where it just feels like she just feels 'not today'" "Every day money is a worry"	**Increasing control over money** • Money management is boring and difficult to maintain • Direct debits take money out without knowing, or when it's not affordable • Wants up-to-date transaction and balance information so they're in control – currently prefers cash for this reason • Difficult to manage money when dealing with low and/or irregular income • Uses different accounts for different things ('enveloping') • Relies on family to hold their money **Problems with banking services** • Bank account was closed unexpectedly • Is getting charged bank fees • Wants to avoid fraud on their card or account	**plum** 'Money Maximiser budgeting' **Money Dashboard** See all accounts and budget in one place **HyperJar** Fintech but not Open Banking

Shopping		
Health-related risk factors	**Finance-related issues**	**Apps/services and promised outcomes**
Goes days without eating "Dealing with it = bread and salad cream, ration bread slices, have black coffee if no milk, drink water to fill up without having to look for food. Drinks lots of water. Will make 4 slices of bread last 4 days. 1 spoonful of beans last."	**Access to cheap, healthy food and cheap goods** • Wants tailored loyalty cards and deals • Uses 'hacks' such as shopping the discount isle • Needs to shop around to find the best value for their shop	**snoop** Find deals **INCOMEMAX**
ADHD • For ADHD, certain k inds of goods are essential to be able to afford and access as they will refuse anything else	**Saving elsewhere to increase shopping budget** • Could use cashback	Fintech but not Open Banking TOO GOOD TO GO Not fintech
Disability affects walking i.e. Poverty Premium • Needs to buy shoes more frequently "People don't consider, with benefits, that when you have a health problem that costs more and it penalises people. It doesn't make sense for these products to be more expensive. 'Why should I be punished all over again?'"	**Finding appropriate benefits and support** • Food banks, government support	

Living Standards		
Health-related risk factors	**Finance-related issues**	**Apps/services and promised outcomes**
Unsuitable housing • Overcrowded and cramped conditions • Temporary accommodation • Rodent infestation **Appliances goods not working or expensive to run** **Damp and mould** "Financially you're killing us, if you need to keep replacing things, like a bed that's ruined because of mould, and I have a health condition, I need to go into debt to replace it." **Cold exacerbates health condition** • Needs heating on because of a health issue	**Able to move into private rented accommodation** • Becoming creditworthy • Saving for a deposit **Replacing white goods** • Hire purchase or rental options • Ethical credit options • Insurance **Staying in control of heating bills** • Clarity on when bills are due and how much they are • Alerts when bills are due • More flexible payment options **Finding support such as heat vouchers or benefits**	CreditLadder Improve credit score Fronted Deposit loan plend Affordable lending

Maximising Income		
Health-related risk factors	**Finance-related issues**	**Apps/services and promised outcomes**
Unable to work due to illness or disability • E.g. Alcohol Dependence Syndrome • Benefits do not cover cost of living **In-work income does not cover outgoings** • Working makes people unable to claim benefits that would help **Living hand-to-mouth causes anxiety and stress**	**Checking benefits entitlement** • Frustration at process of applying for benefits, or feeling passed around **Boosting income** • Using 'side hustle' mentality, cash-in-hand jobs or selling possessions online **Free or affordable childcare** "The council talks about childcare costs. If you want someone to look after your child, you have to make sure they're fully qualified. The council will contribute, but you could end up being worse off financially than if you did it yourself."	**INCOMEMAX** Fintech but not open banking **Gumtree** **Vinted** Not fintech

Debt		
Health-related risk factors	**Finance-related issues**	**Apps/services and promised outcomes**
Problem debt • Link between problem debt and poor mental health • Money and Mental Health Policy Institute say people experiencing mental health problems are 3.5x more likely to be in problem debt than people without mental health problems	**Paying off debt** • Needing to pay back rent arrears • Getting chased by debt collectors • Unable to know how much debt they have • Need to budget so they can see how much they can afford to pay each month **Borrowing from family and friends** • Uncomfortable asking for help **Using credit for day-to-day spending** • Uses Buy Now Pay Later • Using a credit card to delay bills when needed	**INCOMEMAX** Fintech but not open banking

Savings		
Health-related risk factors	**Finance-related issues**	**Apps/services & promised outcomes**
Trapped in difficult or abusive situation "The sense of freedom that you get from money is fantastic."	**Unable to stick with savings plan** • Wants to save enough money in case of an emergency "Monzo had a good feature - saving pots, but it's too easy to just transfer it back out" **Unable to afford to save** **Saving towards a pension** "Saving for a pension is also something that is on his mind, but doesn't feel like it's something he can afford."	**chip** **plum** Save automatically/make saving fun

Apps We Trialled

Our partner Bailey Kursar worked with us to evaluate over 100 readily available Open Banking apps on Google Play and the App Store. We hoped to find apps that might address the financial strategies we identified

We shortlisted seven apps

We only identified seven live Open Banking apps which could be viable for helping people with health problems and low incomes in these areas:

- Maximising income
- Savingand investing
- Managing finances
- Improving credit score
- Reducing outgoings

We did not find any apps live on the market that could help with:

- Reducing debt

These seven apps we identified were:

Snoop	A smart money management app that tracks spending and helps you
Plum	A savings app that invests your spare change and offers personalised
Money Dashboard	A budgeting app that helps you manage your finances by bringing all your accounts into one place.advice.
Credit Ladder	A credit building app that helps you improve your credit score by reporting rent payments to credit bureaus.
Plum	An app that allows users to divide their money into different 'jars' to organise different spending and savings goals.
HyperJar	A budgeting app that helps you manage your finances by bringing all your accounts into one place.advice.
Nous	An online dashboard that allows people to see a forecast of household costs, how much they might raise by and finds cheaper options to switch too. It also has extra tools for people on Universal Credit to help them get on a cheaper broadband tariff.
Lightning Reach Portal	A website that helps people who are struggling financially and need help with money. It searches for financial support such as grants, local schemes and discounted tariffs that people might be eligible for.

The table below shows how each app addresses each financial strategy:

	Income Maximisation	Save and Invest	Manage Finances	Improve Credit Score	Reduce Outgoings
Snoop	✅	❌	✅	❌	✅
Plum	✅	✅	❌	❌	❌
Money Dashboard	❌	❌	✅	❌	❌
Credit Ladder	❌	❌	❌	✅	❌
HyperJar	❌	✅	✅	❌	✅
Nous	❌	❌	✅	❌	✅
Lightning Reach Portal	✅	❌	❌	❌	❌

The next step for our work was to study the effectiveness of selected Open Banking apps with our community in improving their financial health, with the hope of also improving their mental and physical wellbeing.

We recruited 15 participants and tracked their experiences over 11 weeks (74 days).

Now that we've addressed the phase1 question of 'What financial problems do our audience have that could be solved with Open Banking?' It was time to answer the next three questions we had for this research:

Q2: What are the measurable impacts on financial wellbeing from finding the apps useful?, i.e. increase in savings, better cash flow etc.

Q3: What impact on health outcomes has come about as a direct/indirect impact of improved financial wellbeing?

Q4: When trialled with the audience, do they find these existing Open Banking solutions /apps useful enough to keep using after the trial?

For phase 2, COMUZI conducted a diary study to get a deeper understanding of the participants' perspectives. A diary study helped us to:

- Understand daily experiences: We captured the thoughts, feelings, and experiences of participants over a period of time, providing insights into their daily lives.

- Understand naturalistic use: Participants chose when and how much to use the apps, which helped us to learn about factors that prompted or reduced their involvement.

- Obtain more accurate data: Recording events or experiences shortly after they occur helped to improve accuracy compared to relying on longer-term memory.

- Increase engagement: Frequent prompts and contacts with our researchers helped participants to feel involved in the research process.

For this study we onboarded participants, conducted weekly surveys, recorded diary entries every two weeks using video and audio footage and concluded with an exit interview. We had initially also planned to do monthly Zoom drop-in sessions but unfortunately we ended up not having the capacity to run these. In hindsight, these sessions could have proved valuable and offered space for our participants to share their experiences with one another so this is something we will ensure to use in future studies. For an overview of the diary study schedule, see appendix 7.

Onboarding Session

To kick off the diary study, we organised an onboarding session to meet the participants, introduce them to the study, the apps on offer, and to give them space to ask any questions.

Similar to phase 1 we also informed our participants on how our research would be equitable by outlining support pathways and key contact for this stage of the research. Link to our participant information pack can be found here: Participant Info Pack

Onboarding was also a chance to support our participants in selecting an app relevant to their specific goals and needs. We already knew that the seven apps all fitted into five out of six of the identified financial strategies (income maximisation, save and invest, manage finances, improve credit score, and reduce outgoings) but in order for this to make more sense to our participants, we adjusted the language slightly.

So we introduced the apps within the following categories:

1. Apps that can help you budget and find everyday savings
   a. This included *Snoop* and *Money Dashboard*.
2. Apps that can help you budget AND create a savings pot
   a. This included *HyperJar* and *Plum*
3. An app to help you improve your credit score
   a. This included *CreditLadder*
4. An app to help you create a household bills dashboard
   a. This included *Nous*
5. A website to help you find additional support
   a. This included *Lightning Reach Portal*

We showed them the following overview to list pros and cons for each app/service.

Apps/Service	Pros	Cons
Money Dashboard	A simple app to create a budget and review spending	You might find the features are similar to those in yopur everyday banking app
snoop	The app should recommend ways to save money.	The app's mascot is a cute little robot which can come across a bit patronising.
HyperJar	Simple way to stick to a budget, and you can unlock discounts with certain shops.	You need to 'top it up' with your own money in order to test it.
plum	This app can open a savings account for you that pays a small amount of interest.	The app tries to do a lot, including investments, so may feel overwhelming.
CreditLadder	A simple way to potentially boost your credit score.	Could damage your credit score if you don't pay your rent on time.
nous	Use it on your phone, tablet or laptop and with a partner. Potentially save £100s if you're on UC.	The forecasts that the app show can be alarming as it predicts bills will rise substantially.
Lightning	You can access financial support that you might not have been aware of.	Not everyone will be able to be matched with appropriate support

During this onboarding we let participants choose two apps from the list. In this study, we allowed the participants to choose two apps so we could have the opportunity to increase their engagement, motivation and overall satisfaction with the study.

We also believed it could provide us with valuable information about the participant's preferences and priorities, which could enhance the overall findings and interpretation of the results.

At the end of the onboarding process we invited our participants to complete their first survey. This allowed us to capture some of their goals and to inform us of their selected apps and reasons why.

Weekly Surveys

We sent out a weekly survey using Typeform to track participants' experience of using the apps. Examples of the questions we asked were:

- Did any observations or concerns come up for you whilst using the app for the first time?
- Which features on the app did you use the most? Why?
- Have there been any positive outcomes since using the app?
- In what ways is the app not meeting your needs?
- If you had to create an app or service tailored specifically to your needs, what features would you include and why?
- Are there any features that would prompt you to recommend this app to a friend or family member?

We mainly captured qualitative data through these surveys and the answers were open-ended text.

Diary Entries

For the two-weekly diary entries we made use of VideoAsk, a platform which allowed us to pre-record videos of us asking questions which our participants could respond to with either text, audio or video. Here's a few example of questions we asked:

- What does financial stability look like to you in this period of your life?
- How do you think your chosen apps for this study can or can't help you reach financial stability?
- Compared to how you felt about your finances at the beginning of this study, how do you

Exit Interviews

We carried out exit interview s in the last two weeks of the diary study.

The exit interview focused on evaluating the participant's experience with the study, specifically the apps and their impact on the participant's health, financial health and overall wellbeing.

The questions aimed to assess the participant's satisfaction, key takeaways, overall impression, suggestions for improvement, reasons for usage or non-usage, goal attainment, and impact on financial situation.

The interview also seeked to gather feedback on the communication, emotional support, and payment aspects of the study.

Examples of some of the questions we asked:
- Are you satisfied with the apps you chose?
- What was your initial goal? How close do you feel to achieving this goal?
- Do you think more people could/would benefit from using these apps?
- Has there been a noticeable impact on your health and wellbeing as a result of using these apps?
- Have there been any major changes (as much as there can be in 10 weeks) to your financial situation as a result of using these apps? Do you expect there might be?

Key themes

We've broken down our findings into the following sections:
- Apps our participants selected
- Findings by app including:
    - » Usefulness
    - » Limitations
    - » Pros and Cons

- Impact on Financial Health
- Impact on Health and Wellbeing
- Open Banking

Apps our participants selected

Out of seven Open Banking apps presented to our 15 participants, only five apps were selected. Our 15 participants chose two apps each-, 30 selections altogether.

Snoop was the most popular app:

- 12 participants chose to use *Snoop*
- 9 participants chose to use *Money Dashboard*
- 4 participants chose *Plum*
- 4 Participants chose *Lightning Reach Portal*
- 1 participant chose *HyperJar*

Findings by app

Snoop

Snoop is a free money management and budgeting app, helping people to track their spending, cut bills and control their finances. We categorised it as an app which could address 3 out of 5 of our identified financial strategies:

- Income maximisation
- Manage finances
- Reduce outgoings

Snoop was the most popular choice amongst our participants with 12 out of 15 choosing it. The main reason quoted for this was to 'find better ways of managing their spending' and to 'identify areas they could save money'.

Although initial impressions of the app were positive, a few weeks in there became a clear split in opinion. For some, they had concerns like the initial request for all details, offers for insurance that they couldn't afford, connecting to the bank account was invasive, and advertising offers for credit cards and other forms of borrowing. Snoop was also considered less effective than banking apps for budgeting and tracking bills by some users.

"The app isn't as useful as a banking app. The features that banking apps don't offer are only useful if you're on the verge of finishing contracts." - Robin

For the majority however, Snoop was having a positive impact on our participants. They liked the ability to see all their accounts in one place, daily feed with information linked to spending habits, the spend report, spending goals and Snoop of the day, and the breakdown of expenses.

I really like the weekly spending summary because it helps me realise that I'm actually doing a lot better than I think, when previously I have just felt like I have no money so I might as well just spend because I've already messed up anyway - Ellie

9/12 participants who chose Snoop said they would continue to use the service after the study ended with a further two saying they maybe would. Many agreed that longer term use helped the app to finetune its offering and tailor the features to the user.

"The Snoops are more tailored to my preferences the more I use it" - Ellie

Overall, Snoop has some useful features, particularly the spending breakdown and money saving offers. Its limitations, however, lie in some of the products it offers that are not necessarily relevant to this particular group of people and as people on low incomes are usually already on the cheapest deal for various contracts this feature was also ineffective.

Below is a summary of some of its pros and cons according to participant feedback:

Pros	Cons
• Helps users feel more balanced and less scared about finances • Encourages users to track spending and understand where money is going • Offers analysis of expenditures and helps users think twice before making purchases • Provides regular information on weekly spending and helps maintain good spending habits • Gives a better understanding of spending patterns • Helps users realise they're doing better financially than they thought • Assists in stretching finances despite difficult financial situations • Exceeds some users' expectations with its deals and offers • Helps users keep track of multiple accounts and reduces stress	• Some users find the app less effective than banking app in budgeting and tracking bills • Some users find the app too detailed or complex • Not all users have enough money in their account to effectively use the app for or saving • Not yet making an impact for all users. • Some people found the notifications and pop ups to be annoying

Money Dashboard

Money Dashboard is a budgeting app that helps people to manage their finances by bringing all their accounts into one place. We categorised it as an app which could address 1 out of 5 of our identified financial strategies:

- Manage finances

Many of its features are ones that can also be found in Snoop but in comparison to Snoop, Money Dashboard is a much simpler and pared back app.

9 out of 15 participants chose Money Dashboard initially, 1 person swapped to it from Lightning Reach Portal and 1 person swapped from it to Snoop. Main reason people chose this was to 'look for better ways of budgeting'.

The majority of participants had a negative experience of using Money Dashboard with seven out of nine saying they definitely wouldn't use it after this study. The main reason for this is the often occurring technical issues such as logging in, account setup and the constant crashing. These challenges made it difficult for Money Dashboard users to build trust with the app. Many didn't see the value in the app and found it too basic.

> *"It doesn't inspire me as much. It's quite basic and besides the graphs and pie charts etc, I'm not over excited about the other features. I don't understand why I would make payments through the app, I would just do that through my online banking" - Steph*

For some participants, they appreciated the simple presentation of their finances and found the app useful for budgeting and understanding their spending habits. They also like the ability to see their money in all accounts in one place, with the weekly update and the analysis of expenditure being particularly helpful. Many participants commented that the visual aspect of the app to be the best thing about the app.

> *"I have been able to achieve a better understanding of my financial situation by the good graphics of the app - this is its main selling point to me." - Steph*

Despite this, it wasn't enough for participants to carry on using the app after this study.

Overall, the Money Dashboard app is a good facilitator for outlining and understanding personal finance. It offers good visuals such as bar charts and line graphs but lacks worthwhile features to support people with their financial goals.

Below is a summary of some of its pros and cons according to participant feedback:

Pros	Cons
• Helps to keep track of finances in one place,releasing the burden of information from the mind • Provides a neat and organised way to view finances • Allows for categorising payments and specifying which ones to include in budget • Provides weekly spend report • Showcases spending habits and helps to plan budgeting in the future • Shows an accurate analysis of expenditure • Outlines the exact amount of money across all accounts • Graphs are helpful in showing spending	• Low-quality logo and error when creating account • Community link doesn't work • Product roadmap requires a login • Login page is depersonalised and hard to log in sometimes • Not adding value to life as expected • Does not directly feed into financial goals • Spending plan is not clear

Plum

Plum is a savings app that invests your spare change and offers personalised advice. We categorised it as an app which could address two out of five of our identified financial strategies:

- Income maximisation
- Save and invest

Only 4 people chose Plum initially with 1 person swapping to it from HyperJar and another person swapping from it to HyperJar. The low uptake is likely because our participants' main priority was to improve money management and reduce outgoings before considering building their savings. Apart from the one person that swapped away from Plum, the remaining four all said they would continue to use the app after the study.

Participants liked that it offered a range of saving and investment options. The auto save feature allowed one participant to put away a small pot that had grown by the end of the study without them realising.

"Plum wowed me when I finally discovered it and it has had an impact on my savings and I like the way it works. Every feature is exciting" - Jocelyn

Despite the positive feedback, participants also had some negative comments about Plum. For the person that stopped using Plum, they felt uncomfortable with the app 'sneakily increasing' their direct debit for the auto save feature. They also felt manipulated in other ways such as being forced to sign up for the premium account.

"I cancelled the increasingly higher direct debit, I feel that this is very sneakily standardised by them to take from us ordinary people without much reward in turns." - Asma

Participants offered some suggestions for improvement such as the need for an offline mode and more transparency in how auto-saving works. The app may be more suitable for those who are able to take advantage of its features.

Below is an overview of its pros and cons according to participant feedback:

Pros	Cons
• Provides another option for saving and micro investing • Easy to select and allocate savings percentages • Helped reflect on diverse ways of saving and investing • Increases investment literacy • Aggressive saving has helped • Good for mid and long term savings and investment approach • Backed by FSCS for the safety of funds • Features like earning interest, ability to start investing with £1, and cash back • Empowering and allows to be in charge of money and lifestyle	• Overwhelming with many features • Feels like being pulled into a subscription without enough breakdown of features • Complicated and uncomfortable due to unclear calculations • Confusing, hard to use, and difficult to navigate • Too many notifications • Stability of income and options for restructuring debt are issues • Trading feature is problematic and customer service needs improvement • Not enough transparency into auto savings • Aggressive and expensive • App design makes it feel exploitative and manipulative

Lightning Reach Portal

Lightning Reach Portal is a website that helps people who are struggling financially and need help with money. It searches for financial support such as grants, local schemes and discounted tariffs that people might be eligible for. We categorised it as an app which could address one out of five of our identified financial strategies:

- Income maximisation

Four out of 15 participants chose Lightning Reach Portal with one person swapping away from it to Money Dashboard. Participants' main reason for choosing this service was to 'see if there was any additional financial support they could apply for'.

Overall, the feedback was negative with most of the participants not receiving any help from the service. The website lacked enough grants/support and none which our participants could apply for. They felt the service was more suited to someone who was on the extreme end of financial need and not for someone who, although also struggling financially, was not 'struggling enough' to receive support.

> *"It might help some people to get out of a tricky situation, but for financial stability, it wasn't suitable for me because I think it was targeted at somebody who possibly had nothing, but not somebody who just needed that little help up" - Claudia*

This left a couple of participants feeling particularly low and reminded them that there's not a lot of support out there for them.

Despite the negative comments, participants still had some positive things to say about Lightning Reach Portal such as being pleased that it continued to search for support for them (even if it didn't find anything), the fact they work in collaboration with other charities to widen their support and that they provide emergency contents for thing such as food, housing and mental health services.

> *"If a friend had no money and needed urgent support for the first time I would recommend starting with the app because it can pool together a lot of resources that will give you some guidance for example low cost broadband" - Claudia*

Overall, Lightning Reach Portal may be better suited to people which we've described as being in **deep poverty** in this report. It has some useful features and information for those looking for financial support but in order to serve those who have **a little extra**, there needs to be a wider range of support available.

One partcipant who chose to continue using Lightning Reach Portal suggested it was because they "knew they could benefit from grants" because they could do before in previous circumstances.

Below we've listed some pros and cons according to participant feedback:

Pros	Cons
• Good tool for searching for grants if available • Can help find funds • A benefits/grants calculator • Gives some knowledge about grants and support options • Recently partnering up with other organisations to provide more support • Can pool together a lot of resources • Can give guidance on low-cost options	• Sometimes confusing and unclear • Could not help some users find support • Most of the grants found were not available or closed • Not suitable for all individuals and financial situations • Basic information and not much useful information • No new options for funding compared to other websites • Did not change financial situation for some users • One participant's feedback was this app was only for people on benefits, not for those in temporary jobs • Did not provide information/support that other calculators do not already provide • Could not resolve problems for some users

HyperJar

HyperJar is an app that allows users to divide their money into different 'jars' to organise different spending and savings goals. We categorised it as an app which could address 3 out of 5 of our identified financial strategies:

- Save and Invest
- Manage finances
- Reduce outgoings

One person initially chose *HyperJar* but later swapped to *Plum*. A different person later swapped from *Plum* to *HyperJar*. In the end this person said they wouldn't continue using it after this study.

Although one person found the setup process to be straightforward, the other person had issues with identity verification, which led to a negative experience. This reminded them of a negative experience with another banking app, causing them to feel frustrated and isolated, and not wanting to progress with the app.

At first they both found the app's visual display of pot amounts to be helpful. Our participants also appreciated the Shops feature, which showed the latest offers and growth information for the company.

> *"It's satisfying in general to have the jars (definitely getting carried away with all the different fun colours to tickle my OCD) and feels really nice to proactively try to care for myself for the first time with a dedicated self care jar." - Asma*

Throughout the next few weeks, however, the participants had difficulty finding much use for the app and felt that it was not exciting or informative enough to encourage saving.

> *"It's not exciting, it doesn't suggest saving tips, discounts or competitions to encourage saving." - Jocelyn*

Despite earlier promises of supporting participants to get on track with saving and managing spending, HyperJar lacked features and encouragement needed for continued use. Both participants felt like the app would be better suited to a 'beginner who wants simplicity to track their spending.'

Financial Health

The Open Banking apps used in this study helped our participants better understand their finances, budget better, and start saving, leading to improved financial wellbeing, but technical challenges like difficulties in connecting their bank account to Open Banking apps, or verification can eliminate any benefits a user might have.

Some participants learned new things about their finances and spending patterns, while others felt they learned nothing new, but the fact that these Open Banking apps offered in-app education about finances was seen as a good thing.

Some participants felt the apps were not useful because they did not have a job and could not use them in the way they needed. The following quotes from two of our participants sums it up:

> *"Honestly, it really made no difference because I haven't got a job. So I can't use the app in a way that I need to... or want to. Right now, it's just like I've just got extra banking accounts." - Alyssa*

> *"When I have better financial control in terms of work I think this is the app I'll use (Money Dashboard) - but I don't currently have the space to save or move forward other than trying to keep my head above water. I can recognise that this is a temporary issue as I do have a 'proper' job coming up and I really love that I'm going into it with this app because I'll go in really understanding my spending habits, and over time will be able to notice how they change" - Ellie*

Overall, the participants' experiences with Open Banking apps had both positive impacts on their financial wellbeing but the context of their usage, e.g. having a job or some form of income, is important for a positive experience.

In addition to this as seen in the apps highlighted [*Snoop* and *Plum*] in which majority of participants said they'd keep using the app post study appreciated features which help them maximise the value of their money.

These features included money management and budgeting tools, deal searching and interest giving savings accounts

Health and wellbeing

We know there is a clear link between participants' mental wellbeing and their finances but have these apps helped or hindered? One of the big questions we are asking as part of this research is how OpenBanking apps might impact people's health and wellbeing. Overall, the answer depends entirely on the individual and their circumstances but from this we are able to draw some insights and recommendations.

The apps have helped our participants identify spending patterns and areas where they might be able to save money. In doing so, it has also encouraged participants to look for free activities.

> *"It's had a positive impact on our mental health in that we've, we've ended up looking for things that will improve our mental health without costing us money." - Claudia*

For others, the constant worry about finances has resulted in stress and anxiety and these apps have exacerbated this due to incorrect notifications, lack of support, and lack of money to put towards their goal. This extra information on their finances has also served as a reminder for how little they have.

> *"I would look at the Lightning Reach Portal and see okay, there's still nothing and I'm barely scraping by and that was, that was not the app because it was doing it's job, but it was really f**ing awful and depressing.... It didn't make me feel good, and emphasised the lack of care that this government has for people who are currently living in poverty" - Robin*

At the same time, others found this extra information empowering and grounding.

> *"I feel like both [the apps] have kind of been added into my ritual of just scrolling through my finances and trying to work out how much I have, how much I have left andwhen I'm going to run out of money completely. I think I do feel quite anxious and I think I do use it to kind of fill my brain in the not the most healthy way. But it has given some reality, especially on Money Dashboard because it actually has all of my kind of personal finances in one place. I'm not jumping between my financial apps kind of roughly working out how much I have. Like it just has one number which actually I've been finding quite grounding in a way." - Ellie*

To add to this, armed with new knowledge and some changes in their habits, some participants have noticed a positive shift in their mindset and in how they feel about their finances and in turn reducing feelings of anxiety.

Two points to this:

1. People have realised they don't have 'bad' spending habits, they simply don't have enough money and that's not their fault

"I really like the weekly spending summary because it helps me realise that I'm actually doing a lot better than I think" - Ellie

2. For people with "a little extra", a better understanding of income and outgoings has meant they can make changes (or not), giving them some sense of control over their finances

"My initial intentions when I began this research was to clean up my act, and put myself back in a position to enable myself to start saving again- I have definitely started to save now! That has only started this week, but I'm proud of myself! I have started my savings journey again and it's thanks to mainly 'Snoop' the encouragement, suggestions, advice and help to refocus my mindset" - Jocelyn (a little extra)

So although there have been some positive outcomes as a result of using Open Banking apps with our participants, we still need to be mindful of the potential negative consequences which might vary from person to person depending on their individual situation.

Conclusions

Research Question	snoop	plum	Money Dashboard	Lightning
What financial problems do our audience have that could be solved with Open Banking?	The app should recommend ways to save money.	This app can open a savings account for you that pays a small amount of interest.	A simple app to create a budget and review spending.	You could access financial support that you might not have
Is the app useful enough to keep using after the trial?*	8/13 said they'd continue	4/4 said they'd continue	2/9 said they'd continue	1/3 said they'd continue
What are the measurable impacts on financial wellbeing from finding those apps useful, i.e. increase in savings, better cash flow etc? [Participants used more than one app in these summaries]	Some users found the app helpful and life-changing, others reported minimal impact. Some say the app is good but room for improvement.	*Plum* app found to have positive impact on financial wellbeing (avg rating 7). Improved savings & stock market knowledge but some felt overwhelmed by features	Findings show mixed results for the financial app. Some found it helpful, but others found it boring and lacking features compared to others. Categorisation process was criticised as time-consuming. Overall, results suggest divided opinion on the app's value for financial management.	*Lightning Reach's impact on financial wellbeing varies among users. One found it valuable, 1 found no impact, one experienced a positive impact from grants offered. Out of these three participant only one chose to continue.*
	Financial apps positively impacted users' financial wellbeing; helped with budgeting, saving, earning improvement & changed mindset towards finances, one user even started their savings journey thanks to app's encouragement & advice.			
What impact on health outcomes has come about as a direct/indirect impact of improved financial wellbeing? [Participants used more than one app in these summaries]	The app helped users positively manage finances, change behaviour, and improve physical and mental health but some experienced stress due to incorrect notifications and financial issues outside app's control. Impact varied with context.	App helped with mental health, increased finance knowledge, and reduced isolation but had a negative impact on some users' self-esteem. Not all financial situations suited.	Participants reported mixed impacts on health and wellbeing from using the app. Some felt reduced stress, physical benefits. Others felt anxiety and impact was dependent on individual circumstances.	
	The impact on health outcomes from utilising these apps are: improved financial control and decision-making, reduced anxiety about financial situation, and a positive mindset change towards better financial habits.			

*Shift in number compared to App Selections page 33: 9 out of 15 participants chose Money Dashboard initially, 1 person swapped to it from Lightning Reach Portal. Leaving lightning reach with three participants and Money Dashboard with ten participants. Then one participant swapped from Money Dashboard to Snoop. Leaving Money Dashboard with nine participants and Snoop with thirteen participants. These app swaps at the choice of the participants during the study has created the change in these app numbers.

Analysis

Phase 1

To analyse the findings from the one-to-one interviews, COMUZI researchers used:

- the transcription service REV to transcribe the interview notes
- *Miro* to process their notes and the transcripts to draw findings and address the research question for this stage
- *ChatGPT* to do a behavioural analysis on our findings using the capability, opportunity, motivation and behaviour (COM-B) framework.

Phase 2

We used a series of accessible, collaboration focused and AI driven tools to conduct the analysis of responses for this diary study. Survey and diary entries were able to be uploaded to Dovetail; a centralised tool for qualitative researchers to manage, analyse, and visualise their data.

In this study we used *Dovetail* for:

1. Data organisation: *Dovetail* provides a flexible and user-friendly platform for organising qualitative data, including the ability to tag, categorise, and label data to make it easier to search and analyse.

2. Data collaboration: *Dovetail* allows multiple researchers to access and collaborate on the same data, making it easier to share insights and ideas with team members.

Through this tool, we were able to tag recurrent themes, highlight interesting quotes and draw insights.

As well as *Dovetail*, we also utilised *ChatGPT*. Due to the large volume of qualitative data present in this study, the app supported us with text summarisation and sentiment analysis:

1. Text summarization: *ChatGPT* can be used to summarise long texts into shorter, more concise statements, reducing the time spent on manual data analysis

2. Sentiment analysis: *ChatGPT* can be used to analyse the sentiment expressed in text data, allowing the researcher to understand the emotions and attitudes of participants.

Resources

Glossary

COM-B Framework: COM-B model stands for Capability, Opportunity, Motivation, Behaviour, and is a framework used in health psychology and behaviour change research to understand the factors that influence human behaviour.

Digital Exclusion: Digital exclusion refers to the inability of individuals or communities to access, use, or engage with digital technology due to a range of social, economic, and technical barriers. It can result in, limited ability to participate in online activities, and limited access to online services such as e-commerce, e-government, and e-health. Digital exclusion can exacerbate existing inequalities and have significant implications for education, employment, and overall quality of life.

Financial technology (fintech): is a term used to describe new tech that seeks to improve and automate the delivery and use of financial services.

The idea is that by using tech to make financial services more efficient we can make them quicker, more affordable and more accessible for the general public. Therefore fintech should help lower the cost of borrowing, improve savings rates, make foreign exchange cheaper and make it easier for people to get credit

Multiple Long Term Health Conditions [MLTHC]: Multiple long-term health conditions, also known as comorbidities, refer to the presence of two or more chronic health conditions in a single individual. Some common examples of comorbidities include:

- Cardiovascular disease and diabetes
- Depression and chronic pain
- Arthritis and osteoporosis
- Chronic obstructive pulmonary disease (COPD) and heart disease
- Asthma and eczema

Having multiple long-term health conditions can have a significant impact on a person's quality of life, as well as their ability to manage their health. It can also increase the risk of hospitalisation and lead to a greater use of health care resources. People with comorbidities may require more coordinated and comprehensive care, and may need to work closely with multiple healthcare providers to manage their conditions.

Open Banking: Open Banking is a specific kind of fintech innovation. The idea behind Open Banking is to give you control over how you use your bank accounts, rather than your bank having control. There are two types of Open Banking:

- One is about sharing data, to send transaction and account data from one or more banks into a separate app, for example to aggregate accounts or judge credit risk.

- One is about digital payments. Open Banking makes payments quicker and easier for people with banking apps.

- Open Banking can only be used by people who have a bank account/payment account AND have access to online banking.

Open Finance: Open finance refers to a financial system that allows individuals and businesses to access financial products and services through open and interoperable digital platforms, promoting innovation, competition, and increased access to financial services.