

Target, Explore, Solution, Trial, Scale

An introduction to running simple behavioural insights projects





Foreword by Alix Zwane

Chief Executive Officer of the Global Innovation Fund

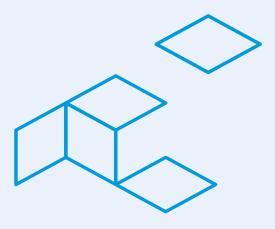
From Ministry of Health officials seeking to encourage greater COVID-19 vaccine uptake among their population, to non-governmental organizations (NGOs) and charities committed to raising school attendance among girls in lower-income countries, a focus on effecting behaviour change has the potential to inform solutions to many major policy challenges.

Yet in practice, policies, services, and innovations are too often designed without consideration for the context in which people make decisions, or the importance of the psychological factors which affect their behaviour. Understanding the local context and policy environment is critical, both for organisations seeking to scale through public procurement and for organisations seeking to develop market-based innovations. They need to understand their operating environment and foresee policy or regulatory frictions and build them into business planning.

In recent years, governments and other organisations have started to take a more human-centred approach in pursuit of better outcomes for their citizens: for example, by directly seeking the views and perspectives of the citizens they work for, and by applying insights from the field of behavioural science to design services. This welcome shift, combined with rigorous evaluation to find out what does or doesn't work, has led to significant improvements in government services across many policy areas.

The Behavioural Insights Team (BIT) has been at the forefront of this movement, working closely with partners around the world to apply behavioural insights to their work, underpinned by a commitment to evidence-based policy making. The Global Innovation Fund (GIF), the organisation I lead, invests in early-stage, evidence-based innovations where we see the potential for outsized social impact. When considering a prospective partnership with BIT, we saw an exciting opportunity to test the efficacy of upskilling government officials in countries without existing behavioural insights units and apply these approaches to policy challenges.

In 2016 we commissioned BIT to share their innovative approach with governments in three low- and middle-income countries – Bangladesh, Guatemala, and Indonesia. This work included the creation of a guide to running simple behavioural insights projects to advise officials and policy-makers, and I am delighted this guide will now be available as a public good, for use by any government or organisation with an interest in behavioural insights. I hope that as readers and users of this guide, you will be able to take away valuable ideas about how to tackle your organisation's priorities in a way that ensures the focus is always on the people you serve.



About this guide

We originally wrote this guide to support our partners in governments around the world to independently run simple behavioural insights (BI) projects. The guide takes the reader through the five phases of BIT's TESTS methodology for running projects: Target, Explore, Solution, Trial, and Scale. The methodology was developed by BIT and has been refined through use in over 1,000 BI projects around the world over the past ten years.

We're now sharing the guide more widely because we believe that the methodology and tools can help anyone involved in designing and evaluating projects aimed at changing the behaviour of people - whether these projects are designed by governments, NGOs, or multilateral organisations.



We believe that the guide will be most useful for teams who have the required technical skills but need direction in how different methods and activities fit together to run an impactful project. It is not meant as a comprehensive guide to tackle complex behavioural challenges, but rather as an introduction to help you run a simple BI project.

Alternatively, if you don't want to run a full BI project (yet), we hope that the guide will provide useful tools and introduce you to a new way of thinking about behaviour change and human-centred programme design. For example, using just Target and Explore to understand a policy problem from a behavioural perspective can inform wider policy decisions.

Running even a simple BI project can seem daunting at first. However, apart from some technical skills (more on that below), it first and foremost requires the willingness to take an evidence-based approach, try new things, overcome challenges, and accept the risk of finding out that your idea did not work the way you had intended. While this might not sound particularly appealing, by taking an evidence-based approach to designing and evaluating your program, you can improve the lives of the people who use it.



About us

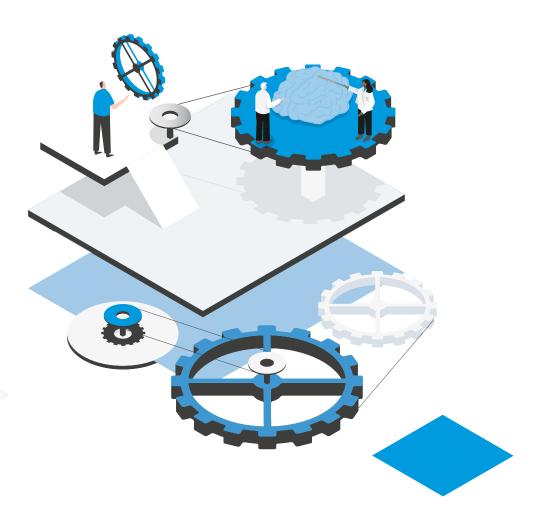
The Behavioural Insights Team (BIT) is a social-purpose company owned by the innovation charity Nesta. BIT was created in the UK Prime Minister's office in 2010 as one of the world's first government institutions dedicated to the application of behavioural science to policy.

We work closely with our partners and share skills in the process, be it through collaboration on discrete BI projects or with more intentional capacity building partnerships, such as the programme of work with the Governments of Bangladesh, Guatemala, and Indonesia, funded by the Global Innovation Fund, which was the starting point for this guide.

You can find more information, blogs, and project examples at www.bi.team. Final reports of several of the TESTS projects in Bangladesh, Guatemala, and Indonesia are available at www.bi.team/capacity-building-gif. These reports include projects aimed at combating sexual harrassment on buses, improving school management by principals, and encouraging early tax filing.

If you would like support from BIT to run a project with you, please email us at <u>info@bi.team</u> with details of the project that you are working on.

Worksheets and Feedback: Printable versions of this guide and the activity worksheets are available at: www.bi.team/publications/testsguide. We have also included a feedback form on this page. If you use this guide to implement a project, we would love to hear from you!



Authors



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Stewart is the Director of Behavioural Science at Nesta, where he is applying behavioural science to Nesta's UK missions: a fairer start, a healthy life and a sustainable future. He was formerly Co-Head of International Programmes at BIT and led our partnership with GIF in Indonesia, Bangladesh and Guatemala. His work in BIT focused on the application of BI to public policy with international organisations and foreign governments, including the World Bank, the United Nations Development Programme and the UK Foreign, Commonwealth & Development Office.



Ruth Persian – Principal Research Advisor at BIT

Ruth currently oversees the research function for our education, crime and justice work and previously led our GIF-funded work in Indonesia. She has extensive experience in designing impact evaluations using experimental and quasi-experimental approaches, having worked on over 15 BI projects in more than 10 countries covering policy areas from revenue collection to anti-corruption.

Acknowledgements

We thank the Global Innovation Fund who supported our work in Bangladesh, Guatemala and Indonesia which made the creation of this guide a priority and a possibility. We thank our partners in these countries for their dedication and hard work implementing projects with us, using and refining our methodology in different settings, and providing feedback on this guide.

We would also like to thank the many people at BIT who contributed to this guide and the tools included within it. A special shout-out goes to Rachel Machefsky, Rosie Phillips, Taya Jackson and Yelena Bide for supporting with drafting sub-sections of this guide and Jasmine Pineda for excellent proofreading. Many thanks also to Alex Sutherland, Cameron Tan, Dan Bogiatzis-Gibbons, Ed Bradon, Elspeth Kirkman, Giulia Tagliaferri, Hugo Harper, Kizzy Gandy, Laura Litvine, Michael Kaemingk, Monica Wills Silva, Rory Gallagher, and Tom Middleton for their comments on drafts of this guide. We apologise for any omissions.

Abbreviations

BI	Behavioural Insights
BIT	The Behavioural Insights Team
DOT	Directly observed treatment
EAST	Easy, Attractive, Social, and Timely - BIT's EAST framework on how to encourage a behaviour
GIF	Global Innovation Fund
GP	General practice physician
HMRC	Her Majesty's Revenue and Customs, UK government department responsible for the collection of taxes
IADB	Inter-American Development Bank
IMSS	Mexican Institute of Social Security (Instituto Mexicano del Seguro Social)
MDES	Minimum detectable effect size
NGO	Non-governmental organisation
RCT	Randomised Controlled Trial
RIF	Regime of Fiscale Incorporation, Mexico (Régimen de Incorporación Fiscal)
RISS	Integrated Networks of Health Services, Care Networks, Mexico (Redes Integradas de Servicios de Salud, Redes de Atención)
SAT	Tax Administration Service, Mexico (Servicio de Administración Tributaria)
ТВ	Tuberculosis
TESTS	Test, Explore, Solution, Trial, Scale - BIT's project methodology
UK/ EU GDPR	United Kingdom/ European Union General Data Protection Regulation
UNDP	United Nations Development Programme
VOT	Virtually Observed Treatment

How to use this guide

The objective of this guide is to provide a practical, step-by-step outline on how to run a simple BI project. Since it is impossible to capture all that there is to know about applying BI in one document, we have deliberately kept the guide simple: more complex behavioural challenges will require more complex methods.

The guide also does not go into all the details of every method introduced, for example, a randomised controlled trial (RCT). Instead, it is intended to serve as a toolkit which introduces useful methods at each phase of a BI project. You and your project team will then be able to find additional information online and elsewhere on each specific method, or to bring in people within your organisation that have the specific technical skills and experience for the related tasks.

Before you start your project, we suggest you read through the whole guide to get an idea of the purpose, activities, and output from each phase.

Assembling your project team

BI projects need people with various skill-sets, so including people in your team with the right background and expertise will be crucial. The core project team, which will be in charge of driving forward the project, should be small (initially 2-4 people) with a range of skills and experience.

Table 0.1 presents the different skills and experience which are useful for members of your project team. One individual might cover several areas of expertise - for example, the Project delivery expert might also have a background in Quantitative research. While all these skills are used in a full project, you might consider bringing in certain skills only for specific tasks - for example, a Qualitative research expert - rather than including them in the core team. If you cannot access these skills within your own organisation, consider collaborating with externals - for example, BI consultancies such as BIT or academics with strong quantitative skills. Throughout the guide, we indicate which skills are needed for which activities.



Table 0.1: Skills needed to run a BI project

Project delivery

Skills/experience:

- Experience overseeing projects within your organisation.
- Well-connected within your organisation and able to get the sign-off needed throughout the delivery of the project.

Role:

Overall management, stakeholder relationships, and project delivery which includes planning and monitoring timelines and budget.

Behavioural insights

Skills/experience:

- Understanding of behavioural science and experience in applying this understanding to intervention design.
- Experience designing behavioural interventions.

Role:

Analysing barriers during Explore phase; designing a Solution grounded in behavioural science.

Quantitative research

Skills/experience:

- Experience in quantitative data analysis and impact evaluation.
- Familiar with the administrative data available within your organisation and partner organisations.

Role:

Conducting Explore data analysis; designing and analysing a Trial.

Qualitative research

Skills/experience:

 Experience conducting qualitative research such as interviews and observations and analysing qualitative data.

Role:

Designing and leading qualitative Explore work and user testing during Solution phase.

Policy and contextual knowledge

Skills/experience:

- Understanding of the target audience, including current behaviours and potential barriers/ facilitators or key influences.
- Understanding of the current systems, social structures and norms, and relevant organisations or programmes.

Role:

Providing expert advice throughout the project, especially during the Target, Explore and Solution phases.

The TESTS methodology

The guide will take you through the five phases of our TESTS methodology. Each of the chapters of this guide presents one of the five phases:

Target

Purpose: Choose specific behaviours in a particular population to change.

Output: Target behaviours with measurable outcomes.

Explore

Purpose: Understand the context in which your target behaviours take place, and identify the barriers to behaviour.

Output: Insights to help you create an effective intervention to change your target behaviours.

Solution

Purpose: Design interventions informed by Explore phase and behavioural science to change your target behaviours and prioritise which to test.

Output: Behavioural intervention that can be implemented and trialled.

Trial

Purpose: Evaluate your intervention rigorously.

Output: Trial result to help you decide whether an intervention should be scaled up.

Scale

Purpose: Implement successful interventions at scale to achieve greater social impact.

Output: Scaled intervention (if results are positive) and plans for future projects.

We present these phases in the order shown above. In practice, however, you will often find yourself going back and forth between the steps. For example, you might identify a suitable target behaviour but realise during the Explore phase that other behaviours are more feasible to change, so you need to go back to the Target phase.

Activities and worksheets

The guide includes activities for your team to conduct throughout. Some of the activities have an associated worksheet and filled-in examples which are included at the end of the guide. The worksheets can be copied or printed out from: www.bi.team/publications/testsguide. For some worksheets, you may need several copies for example, if they should be completed by multiple team members.

We provide suggestions as to how your team can complete the activities and associated worksheets - for example, in team work sessions or as tasks for individuals. That said, it's ultimately up to you to determine which activities (methods) will be useful for your project and how they can be done based on how your organisation works. You can also skip activities that you don't feel are necessary - for example, if you have already conducted similar research.

Case study: Business informality in Mexico - Introduction

Throughout the guide we include a case study of how we applied our TESTS methodology to business informality in Mexico. At the end of each section we outline how the methods in the section were applied in the project. In this box we provide some background information to the project:

Mexico can be seen as having a two-speed economy: one group that is modern and fast-growing, comprising globally competitive multinational companies and cutting-edge manufacturing plants, and a far larger group of traditional Mexican companies that suffer from chronic productivity issues.¹

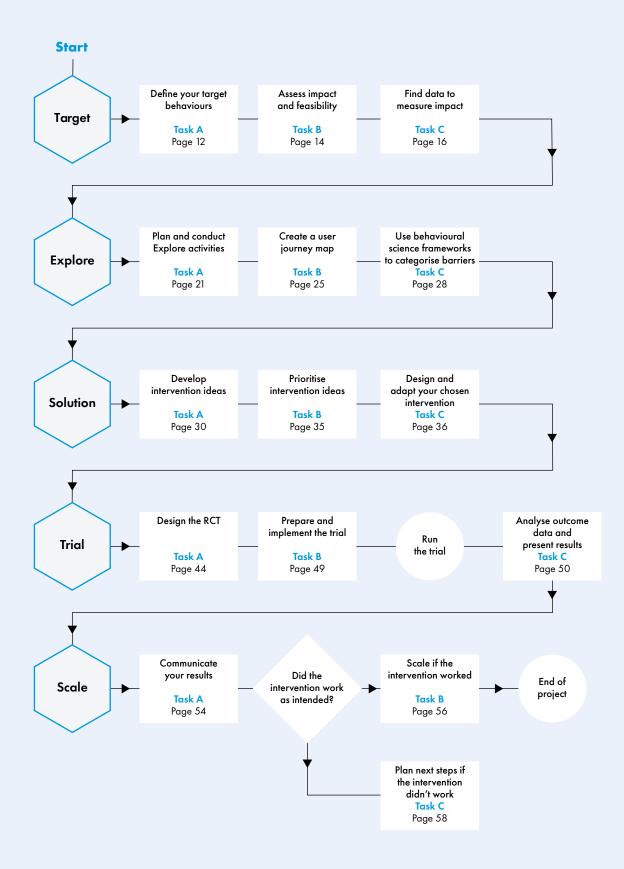
This second Mexico is composed of small, traditional companies that often do not grow due to a lack of access to formal credit or to remain below the radar of the tax authorities. This 'business informality' contributes to low productivity and can have negative effects on growth and government revenues. It also contributes to the fact that close to 30 million Mexicans do not have access to basic social security. Crezcamos Juntos (Grow Together) was launched in 2014 as the Peña Nieto administration's flagship programme aimed at reducing informality. To encourage businesses to formalise, it offered access to highly subsidised tax and social security regimes. Among other benefits, eligible firms that formalised received a 100% tax subsidy in year one, 90% in year two, and so on, for a total of ten years.

By 2015, more than 5 million firms had formalised under its tax regime. But is this enough to consider the policy a success? What happens once a business is registered? For formalisation to play its role in increasing government revenue and providing protection to employees, businesses need to comply with their new obligations, pay taxes, and register their employees for social security.

Together with the Inter-American Development Bank (IADB) and the Mexican Ministry of Finance, BIT ran a project aimed at applying BI to reduce business informality in Mexico. The project was implemented in 2015 and 2016.

¹ Bolio, E., Remes, J., Lajous, T., Manyika, J., Rossé, M., & Ramirez, E. (2014). A tale of two Mexicos: Growth and prosperity in a two-speed economy. McKinsey Global Institute.

Contents





Chapter 1. Target

What is the purpose of this phase? Policy or organisational objectives are often broad and not explicit about which behaviours they target. The crucial first step of a BI project is to determine which behaviour to focus on and how to measure it.

What will you do in this phase?

- A. **Define your target behaviours.** Narrow your broader policy challenge into specific target behaviours
- B. Assess the impact and feasibility of changing your target behaviours. These initial assessments will be based on the impact that changing this behaviour would have and the ease with which the behaviour can be changed.
- C. **Find data to measure impact.** Determine whether each target behaviour has a measurable outcome variable and the data source for each variable.

How much time should you schedule for this phase? There are three activities in this phase, and this guide contains worksheets for the first two. These can be completed in one work session of three to four hours or be broken into smaller meetings. After the activities, you may need to conduct some follow-up conversations with stakeholders and assess data quality and suitability further.

What will be the output of this phase? A short list of two or three target behaviours with measurable outcomes. These will be taken forward into the Explore phase.



A. Define your target behaviours

Starting from the current (policy) challenges that your organisation is working on, identify objectives that are not being met due to the behaviour of individuals involved.

The most important purpose of the Target phase is to make sure your behaviour change objective is specific. To do this, you need to narrow down on the exact behaviour that you are trying to change. Writing out a target statement can help with this; it should include your defined behavioural objective, a description of when it will happen, and who you want to do it.

The specific behaviour that you want to change might be a small step in a long process (e.g. filling out a specific form). It may even seem insignificant compared to a high-level goal that you've been tasked with fixing. However, the advantage of taking a behavioural approach to your goal is that you can break down huge problems into small chunks, improve each one incrementally, and ultimately see real and attributable progress towards high-level goals.

Box 1.1 - Uptake: A lot of simple BI projects aim to encourage the take-up of a (government) service, such as a training programme, or increase compliance, for example with companies' reporting obligations. These targets are well suited for BI projects because the behaviours are clearly defined and measurable, and they are important steps towards a larger goal.

Table 1.1 presents examples of broad policy objectives, related target behaviours that break these broad objectives into specific behaviours, and target statements that outline the specific objective of the project. Most policy challenges can be tackled in different ways - for example, if you want to combat tuberculosis (TB), you might encourage current patients to take their medication as prescribed or doctors to screen individuals who show symptoms of TB. Over the course of the project, you will likely need to revisit your target behaviour and target statement. This is to be expected as you gain new insight into the detailed context of an issue. There is typically a lot of back and forth between the Target and Explore phases. Also note that, while we are asking you to develop a target statement now, the following sections will focus on the target behaviour more generally.

Table 1.1 - Policy objectives, target behaviours, and target statements

Policy objective	Target behaviour	Target statement	
Combat TB	TB patients adhere to medication.	Increase the number of days per week that TB patients take their medication during their treatment period.	
Decrease administrative costs of collecting social security payments	Employers pay social security contributions by Direct Debit.	Increase the number of employers who pay their social security contribution by Direct Debit by the end of the fiscal year.	
Decrease microbial resistance	Doctors prescribe less antibiotics.	Decrease the amount of antibiotics prescribed by doctors in private clinics in January 2022.	

Box 1.2 - Attitudes and awareness: The target of a BI project should always be a behaviour, not an attitude or awareness. Even if your organisation wants to raise awareness or change attitudes around a certain topic, the ultimate aim will be to change behaviour. Influencing attitudes is only one possible way to do this, and not an end in itself. Therefore, try to focus on the end goal, not the mechanism, at this stage. For example, a tax department might want to raise awareness about the importance of paying taxes, but the actual goal of this is that more citizens do actually pay their taxes and this should be the objective of a BI project.

Activity 1.A: Identify target statements

How much time should you schedule? 1-1.5 hours for a work session.

Who should be involved? This and the following activity can be conducted with just a project team. Make sure a Policy and context expert is present. You might want to involve further stakeholders who have a good understanding of your organisation's priorities and/or who will ultimately have to sign off on the project.

- 1. Discuss your organisation's or team's current two to three most relevant high-level objectives.
- 2. Spend 15 minutes brainstorming all behaviours from different actors which contribute to your policy objective. Work individually. Different people will contribute different perspectives.²
- 3. Use Worksheet 1.A to narrow down the most important target behaviours for each objective that would need to be changed to make progress towards the objective. It is fine to have several target behaviours per objective.
- 4. In the worksheet, write target statements which detail exactly:
 - a. Whose behaviour you want to change (e.g., employers in the manufacturing sector);
 - b. What this behaviour is (e.g., register their employees for social security);
 - c. When you expect it to happen (e.g., before the end of the fiscal year).
- 4. Discuss the target behaviours and statements and decide jointly which to take forward to Activity 1.B.

Output: Two to three potential target behaviours per policy objective with associated target statements.

² In this chapter and later, you will gradually narrow down the focus from a long list of potential behaviours to one behaviour. Then, you will start with a list of intervention ideas, narrow down to one intervention, and design a trial. We are suggesting one way of eliminating behaviours and solutions throughout the process, but you might find that, for your project, it works better to, say, look only at one behaviour from the start or to take a couple of behaviours forward to the Solution phase.

B. Assess impact and feasibility

Once you have brainstormed a list of potential target behaviours, prioritise which behaviour(s) to explore further. You should conduct a high-level assessment of each target behaviour, considering impact and feasibility. This will be preliminary and based on your experience. There is no need to do any further research at this point, but it's a good idea to have people with different backgrounds involved in the assessment to ensure having different perspectives.

Impact: Consider the overall impact on the policy objective of changing a particular behaviour. Consider: What impact will changing this behaviour have on the overall policy goal?

- If we changed this behaviour by a small amount, would this be considered a success by relevant stakeholders? And would it allow making meaningful progress towards the policy goal? Think specifically e.g. if you increase uptake of a scheme by 2 percentage points, would this matter? (See also Box 1.3)
- How many people do this behaviour, or does this behaviour affect?

Feasibility: This is the ease with which the behaviour can be changed. Changing behaviours can be very challenging. Even the most impactful behaviour might not be a good target behaviour if it is very difficult to change. Consider:

- Does the project team/your organisation have the capability to intervene in the environment in which the behaviour takes place?
- Is this a behaviour that the target group is very opposed to changing, or is there a group who are 'on
 the fence' and are quite likely to change their behaviour? For example, it might be easier to encourage
 uptake of vaccination among those that are just a little hesitant because they have some additional
 question or find the current process just too confusing, than among those who are fundamentally opposed
 to getting vaccinated based on their values.
- What level of individual effort does changing the behaviour require? In particular, consider whether changing the behaviour will:
 - Require considerable effort from the target group, such as developing new skills;
 - Need to be sustained to be impactful (e.g. changing eating habits) or is a one-off behaviour (e.g. vaccination);
 - Require several individuals/groups to coordinate?

At this stage, you should also consider whether this is a behaviour that is ultimately in the best interest of the target group, or whether it is something that goes against their interests and encouraging this behaviour might raise ethical concerns (see Section 3.B for more on ethics when we discuss intervention choice).



Box 1.3 - What impact can you expect from a behavioural intervention?

Behavioural interventions, while powerful and cost-effective, will rarely change the behaviour of everyone in the group of people you target. This is because behavioural interventions aim to encourage people to change their behaviour, rather than forcing them to do so.

With light-touch, low cost interventions such as redesigning the content or format of communications (e.g. letters, emails, or SMS), you have to be realistic. There are unfortunately no clear rules to decide what change can be realistically achieved, as this depends to a large extent on the behaviour, the intervention, and the environment. The most important thing is that you have an honest discussion within the project team and potentially with other stakeholders.

In BIT's experience, communication interventions often don't bring about a change that is larger than 2-3 percentage points. (However, there are also many exceptions.) For example, if without the intervention, 30% of companies pay their tax debt, a realistic goal for a light-touch behavioural intervention, such as a letter, is to increase this number to 32%. Given that the interventions are low-cost or free, this is still a meaningful improvement and can often bring about large improvements in welfare, especially if implemented at scale.

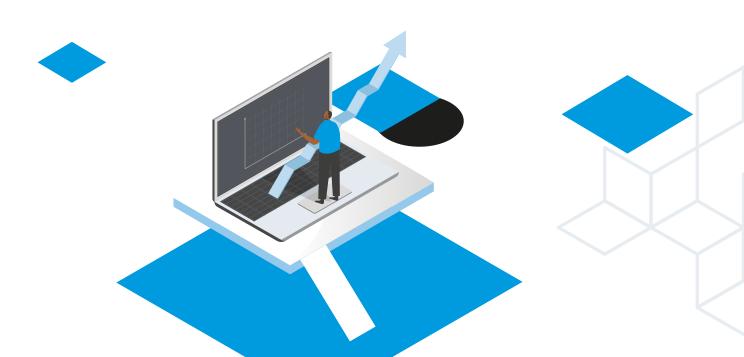
Activity 1.B: Assess impact and feasibility

How much time should you schedule? One hour.

Who should be involved? Same as for Activity 1.A.

- 1. Individually, write brief impact and feasibility assessments for each target statement that you have taken forward from Activity 1.A in Worksheet 1.B. Use a separate worksheet for each target statement. Use the prompts as a starting point to guide your considerations. However, you may need to come up with your own to fit the environment you are working in.
- 2. Assess each target statement's feasibility and impact by circling the appropriate number (e.g., rate on a scale from 1 = not feasible to 5 = very feasible).
- 3. As a group, compare your assessments and rankings, and discuss which target behaviours have the highest impact and feasibility. You can narrow down the longlist of target behaviours either here or after you also have assessed data availability in the next step.

Output: An impact and feasibility assessment for each target behaviour.



C. Find data to measure impact

An important part of any BI project is to evaluate the impact that the behavioural intervention has on the outcome of interest. For this, you will need a way to measure your target behaviour/outcome of interest. This measurable target is captured in your outcome variable. (For more detail, see Chapter 4).

Box 1.4 - Choosing an outcome: There are two levels of outcomes: (1) the target behaviour, and (2) the overall objective of your project. Sometimes, the two might be the same, but that's not always the case. For example, your intervention might encourage children to sign up to and use an online learning platform with the ultimate aim of improving school attainment in maths. The target behaviour would be signing up to and/or using the platform; the overall objective might be to increase the pass rate in final maths exams. We recommend that you, if at all possible, focus on a target behaviour as your primary outcome. This will be much more directly linked to your project intervention, and fewer other factors will influence changes in it compared to the overall objective. For example, pass rates might also be influenced by classroom variables such as teacher quality. That said, the tools in this guide will equally work if you choose a higher level objective as your measurable outcome.

There are four data types that you can use to find outcome variables to measure your target behaviour:3

- 1. Existing, routinely collected data;
- 2. New measures added to routinely collected data or adaptations to data collection process;
- 3. Survey or observational data; and
- 4. Proxy measures.

1. Existing routinely collected data

This is the ideal situation. The majority of BI projects run by governments should be able to use this kind of data. For example:

- If you want to measure whether or not an individual files their tax return, this can be done using data held by the tax authority in question;
- If you want to measure whether or not a child passes their exams at the end of the school year, this data should be collected by the school in question.

You still need to think about:

- Who holds the data? Who can give it to you? Is it held centrally or by sub-national institutions?
- At what level is the data available (e.g. individual, school, district, city, region, national)? For example, can you see at the level of the individual whether someone performs a behaviour, rather than at an aggregate level?
- What approvals do you need to analyse it? Be proactive about getting approvals to access the data, and speak with the people who manage it as early as possible. This can take longer than you think.
- When is the data available (e.g. is it collected quarterly, annually, every 5 years?), and when would you need data to evaluate the intervention?
- In what format is the data collected (e.g. is it currently collected on paper, rather than digitally?), and can you use it in the current form?

³ When working with data - especially if it is personal or sensitive data - it is important that applicable regulations are followed (such as United Kingdom / European Union General Data Protection Regulation, GDPR) and that data is safely stored, anonymised, used, and disposed of as required. This is not just to comply with the relevant laws and regulations, but also to protect the privacy and in certain cases safety of the people whose data you analyse.

2. New measures added to routinely collected data or adaptations to data collection process

Often, you can add new outcome measures to an existing data collection system or change how data is processed or managed to receive new outcomes. This is the next-best option.

For example, BIT worked with a national driving licence authority to encourage citizens to pick up their finished driver's licences. The authority was already gathering data on this, but on paper forms. BIT and the authority worked together to set up a simple system to collect this data in an Excel sheet. This machine-readable database could then be used for outcome analysis.

You should think about:

- Is it possible to change an existing system so that data on an important behaviour is collected in a desired format?
- Is data already available, but not in the format you need it in (e.g. it is currently collected on paper, rather than digitally)?
- What is the cost and time required to set up the new system?
- Can you collect baseline data using the new system before your trial starts to ensure the data collection is happening in a reliable way?

3. Survey or observational data

If it is not possible to use routinely collected data that measures the target behaviour (the two options above), a third option is to use surveys or to conduct observations of the behaviour. Typically, these will need to be implemented specifically for the project and can be expensive, but it may be possible to use existing surveys. For example, in Peru, we made use of a nationwide survey on teacher absenteeism and factored the rollout of this survey in our project plan and evaluation design.⁴

You should consider:

- Are there existing surveys that can be leveraged to collect this data?
- Are there questions that have been tried in a similar context and that can reliably capture your outcome of interest?
- Do people have an interest in reporting honestly, or are their concerns about answers being biased?
- At what scale is data being collected, and is the sample size large enough? (See Chapter 4.) Will enough people respond? If not, what can be done to encourage a higher response rate?

At BIT, we try not to use this option because, as well as being expensive, data collection on important outcomes should be integrated into government processes so that decision-makers can use this data for decision-making. Self-reported survey measures can also be inaccurate. We encourage you to think carefully about whether there is a way of collecting the data using routinely collected data sources. However, in certain cases, a survey is unavoidable, as the behaviour cannot be routinely recorded. For example, if a target behaviour is to reduce bribe payments, surveys would be needed to capture this behaviour (knowing that there is a risk of misreporting).

4. Proxy measures

There may also be cases where it is simply not possible to measure the outcome of interest, perhaps because it is not directly observable and a survey would be too expensive or unreliable. In this case, think about a proxy for the outcome of interest. This is a measure that you expect to be highly correlated with your outcome of interest and that you can measure. The proxy measure could be sourced through any one of the three data types outlined above, but we encourage you to focus on Options 1 or 2.

For example, you might want to help jobseekers to find a new job faster. However, your institution - an employment centre - only knows whether a jobseeker is still attending consultation sessions regularly and their case is still open. A file will be closed if a jobseeker has not come for more than a month. In this case, whether a jobseeker's file is closed could be used as a proxy for whether they have found employment. While you can be reasonably sure that, if a jobseeker is no longer attending appointments, this means they have found a job, you must recognise that they might also have decided that the appointments are not helpful and have stopped attending for this reason.⁵

Box 1.5 - Sample Size: Another important data consideration is how many people (or other units) you can measure your outcome for. If you want to implement a randomised controlled trial (RCT) to evaluate your intervention, then the larger your sample, the smaller the change in your target behaviour you can detect. The general rule of thumb is: the bigger the sample, the better. Read Chapter 4 of this guide to learn why sample size matters and what sample size you will need for an RCT.

Activity 1.C: Find data to measure impact and choose target statements to take to the Explore phase

How much time should you schedule? 1-1.5 hours, potentially some follow-up work to confirm data availability.

Who should be involved? Core project team, including the Quantitative research expert.

- 1. As a group, discuss whether each target behaviour from Activity 1.B has an outcome variable that can be measured by:
 - a. Existing routinely collected data
 - b. New measures added to routinely collected data
 - c. Survey or observational data
 - d. Proxy measures (that in turn can either be measured through routinely collected data or by adding new measures to routinely collected data).
- 2. Combine this information with your potential for impact and feasibility assessments (Activity 1.B), and decide which target behaviours to take to the Explore phase.

Notes:

- To focus your Explore phase, these target behaviours should all be related to the same or related
 policy challenges (although you can of course also decide at this point to split the project into two
 separate projects covering different challenges).
- Try to limit the short-list to two or three target behaviours that, ideally, can be measured using outcome variables in existing routinely collected data or by adding new measures to it (rather than relying on surveys), and that you ranked highly for potential impact and feasibility.
- At this stage, the impact and feasibility assessments will be preliminary as you will learn much
 more about your target behaviours in your Explore phase. You may therefore need to revisit this
 prioritisation after you have conducted Explore activities.

Output: A list of two or three target behaviours to be taken forward to the Explore phase.

Note: There is no worksheet for this activity

5 For a project where we used this approach, see Sanders, M., Briscese, G., Gyani, A., Hanes, S., Kirkman, E. and Service, O. (2021) Behavioural insight and the labour market: evidence from a pilot study and a large stepped-wedge controlled trial. Journal of Public Policy, 41(1), pp. 42 - 65

Case study: Business informality in Mexico - Target

Continued from box on p. 9.

The high-level aim of the Mexican Ministry of Finance was to reduce business informality. Business formalisation can be seen as a binary status, but in reality can actually be broken down into several behaviours that businesses must comply with.

Many firms which registered under the Crezcamos Juntos programme in Mexico between 2014 and 2016 fit such a non-binary description of business formality, with 10% not registering their employees for social security and 75% not filing their taxes on time.

The table below shows example output from the tasks in the Target phase for this project.

Target Statement (Task A)	Initial assessment of target (Task B and C)			
What is your Target statement?	What is the outcome of interest?	What data is available to measure impact?	Should we explore this in the next phase?	
Increase the number of employers who register their employees for social security.	Proportion of employers who register additional employees for social security.	Administrative data on the registration of employees for social security (option 1).	Yes	
Increase the number of firms who file and pay their taxes on time.	Number of tax declarations made by firms.	Administrative data on tax declaration and payment (option 1)	Yes	
Increase the number of registrations to the tax authority from individuals who have a mortgage with the workers housing fund.	Number of tax registrations from individuals making payments to a workers housing fund mortgage.	Administrative registration data on tax declaration (option 1).	Yes	





Chapter 2. Explore

What is the purpose of this phase? In order to understand how you might intervene to change your target behaviours, you need to understand the context in which they take place. No amount of reviewing literature can replace speaking to and observing the people whose behaviour you want to change and those around them.

This section of the guide provides an introduction to the Explore phase. We have recently also published a report covering just the Explore phase. We recommend you read it alongside this section, as it provides much more detail on how to choose and conduct Explore activities.⁶

What will you do in this phase?

- A. **Plan and conduct Explore activities:** Interviews, focus groups, surveys, observations, and analysis of existing data will help you identify to what extent and why people (don't) complete the target behaviour.
- B. **Create a user journey map:** This will help you map the steps a person must follow to complete the target behaviour.
- C. Use behavioural science frameworks to categorise barriers: Analyse why people do or don't engage in the target behaviour through a behavioural science lense.

How much time should you schedule for this phase? This step could take a day, a week, or several months depending on the number and complexity of the behaviours and their environments, and how well you want to understand them. Your project team should all read through this chapter, and then organise a meeting to plan who will do what and when.

What will be the output of this phase? A user journey map with barriers and enablers of the target behaviour.

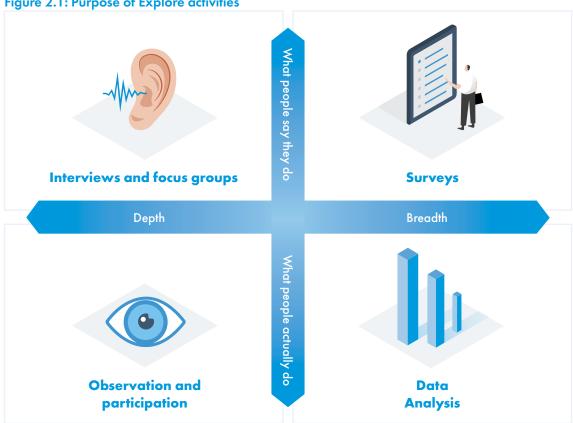
Note: during these activities, you will often learn things about the behaviour or the influences on it that might mean you have to go back to the Target phase. This is normal!



A. Plan and conduct Explore activities

The reasons that people behave the way they do may be different from what you expect. Sometimes they will tell you their reasons if you ask. Other times they might be unaware of their own behaviour, and you can best understand it by observing them or 'walking in their shoes' (i.e., experiencing systems and processes yourself).

Figure 2.1: Purpose of Explore activities



Each type of research activity presented in Table 2.1 provides different insights (see Figure 2.1) and allows you to answer different research questions. You should consider whether you are looking for depth or breadth of understanding, and whether you are interested in reported and perceived behaviours and people's reasoning or actual behaviour. Ideally, you want a mix of all of these things. However, at a minimum, you should aim to interview people, experience the service in question/try to engage in the target behaviour yourself, or watch someone else do it. In addition, if routinely collected data on your behaviour exists, you should always include a (quantitative) data analysis. Assessing the quality of the data available will also help you later when you are designing your trial (Chapter 4). Once you have decided on the research activities, it is time to plan them in more detail, including who you will collect data from, when you will do so, and how.

Table 2.1: Overview of Explore activities

Interviews and focus groups

Purpose: Understanding people's views, experiences, values, emotions, and motivations.

Ideal for: Deep-dive into complex or sensitive issues that require indepth understanding or delicate handling.

Example(s): Interviewing taxpayers that filed a tax return after the deadline, to understand why they filed late and their views about the filing system; interviewing those that filed on time to understand what enabled/motivated them to do so; interviewing a frontline tax office employee to understand what they have to help taxpayers most often with.

Limitations: Interviews and focus groups can be time consuming to prepare, conduct, and analyse. Additionally, interview subjects may feel pressured to provide the answers that they think interviewers want to hear. (This is called the social-desirability bias).

Skills required: Qualitative research skills, such as preparing interview or focus group guides; conducting interviews and focus groups; light-touch analysis.

BIT tips: For simple projects, 10-20 interviews can be enough to discover important themes. Interview a range of different people (e.g., end users that do and those that don't engage in the target behaviour, service delivery staff, and other topic experts).



Observation and participation

Purpose: Allows you to understand much more than if you just ask people their opinion, such as very small issues that influence their behaviour.

Ideal for: Understanding target behaviours and existing services that require several steps and examining people's interactions with these services. (See 'Create a user journey map' below for how to record your findings).

Example(s): Try to sign up for a government service yourself to understand any difficulties ('Participation') or watch a citizen do it ('Observation').

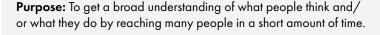
Limitations: Can be time consuming and/or logistically difficult; information is limited to the target audience's experience, rather than why a process is the way it is.

Skills required: No specific skills are required. Just get out there and do it!

BIT tips: If you cannot go through the process yourself (e.g., because you are not a business owner), find someone that can and is willing to document their process. Alternatively, you can observe people while interfering as little as possible (e.g. go to a tax office and observe all the steps people are taking to file their taxes).



Surveys



Ideal for: Understanding the prevalence of opinions, behaviours, and attitudes.

Example(s): Email 1,000 beneficiaries of a government programme a set of pre-written questions.

Limitations: Information is broad, not in-depth, and you can't ask any follow up questions. Those who respond to your survey are the most vocal or opinionated.

Skills required: Basic quantitative research skills and experience designing surveys.

BIT tips: Keep the survey short by aiming for at most five to ten questions. Make sure that the questions are mostly binary (i.e. yes/no), quantitative (i.e. have a number as an answer), or multiplechoice (i.e. give respondents a number of possible answers). Pilot the survey questions with a few people to check they are easily understood. Think about the data you will get back and if this is useful. (For example, if 70% respond yes to this question, will we learn anything useful?) Explore low-cost options like adding questions to an existing survey rather than launching your own survey.



Data analysis

Purpose: Exploring relationships, patterns, and trends in data to identify the key aspects and scale of a problem.

Ideal for: Understanding where you should focus your work and corroborating findings from other research tools.

Example(s): Analyse the previous year's tax return data to identify the subgroups that were more likely to file late (e.g. self-employed taxpayers). Analyse an application process with many steps to see where many people drop out.

Limitations: Data can be difficult to access, require a lot of data cleaning, or may not capture the exact measure you require.

Skills required: For basic, organised data, basic Excel skills might suffice. If a dataset is large, complex, and requires cleaning or sophisticated analysis, then more in-depth quantitative research skills are required.

BIT tips: Generate summary statistics (e.g. averages) and graphs. Check with people familiar with the data and programme whether the conclusions you drew from the data are reasonable. If you are going to collect personal or sensitive information then check relevant data handling laws (e.g UK/EU GDPR).



Activity 2.A: Plan and conduct Explore activities

How much time should you schedule? Two to three hours for an initial planning session; thereafter one to four weeks for planning and conducting activities.

Who should be involved? Entire project team, including the Quantitative Research, Qualitative research, and Policy and context experts.

Preparation:

Before you conduct an initial planning session, each team member who will be involved in the Explore work should read the whole of this Explore section. Knowledge of what is needed in activities 2.B and 2.C will help you develop research questions and get the most out of your Explore activities.

Work session:

- 1. Draft research questions. Use a separate copy of Worksheet 2.A for each target behaviour. The research questions are what you want to learn from your Explore work. They should be based on your target statement and seek to understand the context/set-up in which the target behaviour takes place, the barriers and facilitators that contribute to that behaviour, and any programmes that already exist to support the behaviour.
- 2. Decide which Explore activities should be conducted to obtain the answers on these research questions. Our Explore report provides a lot more detail on each type of activity, when to use it, and how to plan for it.
- 3. Start to plan the selected activities. You will likely need to continue this afterwards. What preparation is required depends on the activity, but considerations include:
 - Interviews and focus groups: Who will you interview? How will you reach them? What do you want to ask them? (See Box 2.1)
 - Observation and participation: Can you experience the service/engage in the target behaviour yourself or will you have to rely on observing someone else? What do you need to prepare for this? If you plan to rely on observations, when, where, and how will you do this?
 - Surveys: Who will you survey? How will you reach the target population and how can you maximise the chance of obtaining answers from as many people in your sample as possible, not just a selected sub-group? What questions do you want to ask?
 - **Data analysis:** Where will you obtain the data from and what permissions do you need? What variables do you want to explore and for which individuals/organisations?

Follow-up work:

- 4. Plan Explore activities in detail, including getting approvals, organising logistics and creating interview guides and surveys.
- 5. Conduct the activities as planned and summarise your findings and identify core insights as they relate to your research questions. When identifying relevant insights, keep in mind what information you will need to build the user journey map.

Output: Findings from activities that address your research questions.

Box 2.1 - Selecting respondents: For interviews, focus groups, and surveys, you will have to decide who to interview or survey. When choosing respondents, think about who will be best placed to help you get answers to your research questions:

- Include not only those that don't engage in the target behaviour at the moment, but also those that already do to understand what motivates and enables them to do so.
- Employees of the organisation delivering a service can provide valuable insights into how a
 service should work, how it actually works at the moment, and their perspective on what users are
 struggling with. However, do not rely on their view alone. Always include users, even if ultimately
 your target group for your intervention might be the service providers!
- Consider your entire target group. What are the most important characteristics that you think will
 have an impact on whether and how they engage in the target behaviour? This can be someone's
 age, access to technology, level of education, place of living, etc. Then make sure you include
 individuals who are different along those characteristics.
- There is no magic formula for how many individuals you should interview. A good rule of thumb is that the more diverse the group, the more people you should include as their experiences are likely to be more diverse too. For a relatively homogenous group (e.g. owners of small restaurants in the capital city), five to seven interviews might be enough. For a diverse group (e.g. business owners across different sectors and regions of the country), you should aim to interview a larger number of individuals. Realistically, how large this group is will also depend on your budget and the time you have. While it would be great to conduct 50 interviews, very few organisations will have the budget for this.

B. Create a user journey map

A user journey map shows the steps an individual must follow to complete a target behaviour and is a great way to summarise and present your Explore findings. Developing a user journey map helps you locate where your target population might experience difficulties. In the Solution phase you may then be able to design changes to the process to eliminate difficult parts. In any case, gaining an understanding of all the steps and the barriers and enablers will still be useful for making sure that your intervention is grounded in your Explore work. For example, if there are four steps and three documents needed for an application process, you can include this information in a guidance document to help people navigate the system.

User journey maps can differ in complexity, depending on the behaviour. When mapping the user journey, you should break it into as many steps as possible and be as detailed as possible about each step. You might think that the target behaviour involves only one step (e.g. workers cycle to place of work instead of taking the car), but essentially all target behaviours can be broken down into smaller steps (e.g. buy a bicycle, research the best route to work, improve cycle skills to feel confident enough to cycle, check weather forecast, pack bags the night before, etc.). The journey map in Figure 2.2 shows the potential journeys and steps for an employer registering for The Mexican Institute of Social Security (IMSS). This is a relatively complicated user journey due to the number of options available, but the number of steps within each option is not uncommon.

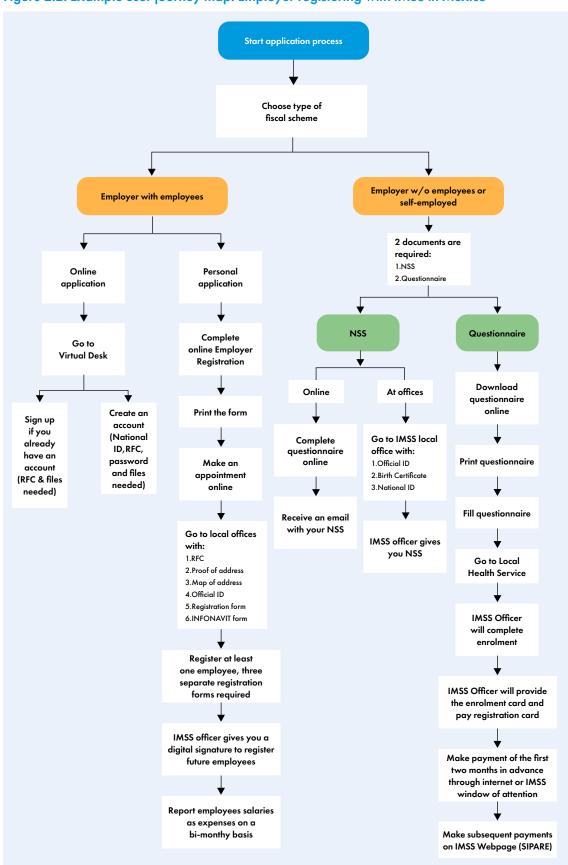


Figure 2.2: Example user journey map: Employer registering with IMSS in Mexico

It can be useful to create a user journey map based on how the process is supposed to work or how you believe it should work before conducting other Explore activities. For example, for a service provided by your organisation, you can use your organisation's relevant standard operating procedures. Then, when you conduct Explore activities, you will be able to document where reality frequently differs from this, why this is, and what outcomes you see in those situations. Creating a draft user journey map before Explore activities can also help you develop research questions.

When compiling the user journey, make sure you also include those steps that the end user has to complete outside your organisation's system. For example, if the target behaviour is to encourage young people to apply for a government training programme, also look at steps such as potentially obtaining their school records from their old school.

Once you have mapped out all the steps, use the insights from the Explore activities to highlight where your target population frequently experiences difficulties and drops out of the process. Then start describing the barriers (or enablers, if appropriate) associated with the steps. Again, go into as much detail as possible; documenting these barriers will provide you with a good basis for identifying interventions during the Solution phase.

Activity 2.B: Map the user journey for your target behaviour(s)

How much time should you schedule? Two to three hours per user journey; more if you are producing several user journeys for different target behaviours.

Who should be involved? The team that conducted the Explore activities and the **Behavioural Insights** expert.

- 1. Draw the user journey (including different potential options) on a large piece of paper, all the way to successfully completing the target behaviour. Use post-its to map the steps.⁷
- 2. Label any steps with a high drop-out rate (i.e. where many individuals stop their journey through the process) or where the actual process deviates from what is supposed to happen (e.g. the online filing system is not working most of the time).
- 3. Use post-its in two different colours to write down the associated (1) barriers and (2) enablers to the target behaviour, based on the insights from the Explore activities.
- 4. After the work session, use software, such as Microsoft Powerpoint or Miro, to create a final version of your drawing. This can be quite useful when you later want to present the user journey to stakeholders (but it's usually easier to first use pen and paper and later transfer the final user journey into digital format).

Output: One user journey for each target behaviour, including barriers or enablers to steps being completed.

Note: There is no worksheet for this activity.

C. Use behavioural science frameworks to categorise barriers

From your Explore activities and mapping out the user journey, it is likely that you have already identified reasons why people are not engaging in your target behaviour (and why some do). Whilst some barriers and enablers are obvious, behavioural science can help you understand those that you have named already and provide a framework for spotting additional barriers and enablers. This will be helpful for designing effective interventions at the Solution phase. (See Chapter 3.) The behavioural science literature is vast and ever expanding, and we cannot provide a full list of all potential barriers and enablers here. This is therefore one of the steps where working together with a behavioural scientist who has an in-depth understanding of the literature will be particularly useful.

However, there are frameworks and tools that can help you systematically and identify behavioural barriers and enablers. One of the most well-known ones is the COM-B model of behaviour change.⁸ It states that to perform a behaviour, individuals need:

- Capabilities: a person's physical or psychological ability to perform the behaviour;
- Opportunities: anything in the physical or social environment that may encourage or discourage a behaviour;
- Motivations: internal reflective and automatic mechanisms that activate or inhibit a behaviour.

BIT's online Barrier Identification Tool which you can find at www.bitbarriertool.com and which is based on the COM-B model, presents examples of barriers falling into the different categories.

Activity 2.C: Analyse barriers

How much time should you schedule? From two to three hours per user journey to several days, depending on how in depth you want your analysis to be.

Who should be involved? One to two team members, including the Behavioural Insights expert.

This activity might be best done as a desk review by a small number of people. We recommend that you do one or several of the following:

- Use BIT's free online Barrier Identification Tool (available at www.bitbarriertool.com).
 It walks through several steps: an introduction to the COM-B model, an example of how the model can be used to diagnose COM-B barriers for a problem, and an activity to help identify barriers for a target behaviour. You can select the barriers that you think are relevant to your target behaviour.
- 2. Use the COM-B checklist in Worksheet 2.C to identify and categorise the potential barriers at key steps in the journey. Don't worry if you are not 100% sure which category a barrier belongs to; go with your best guess. This is not an exact science, but rather just a tool to structure your thinking.
- 3. **Consult additional (online) resources** if you want to do a more in-depth analysis, such as academic studies and policy reports that look at the same or similar behaviours.

Output: A comprehensive set of barriers to each target behaviour, including a BI analysis.

Case study: Business informality in Mexico - Explore

Continued from box on p. 19.

A: Plan and conduct Explore activities

In order to deepen our understanding of the transition of small firms into the formal economy, we conducted a variety of Explore activities in Mexico over the course of two weeks:

1. Interviews & focus groups: We interviewed:

- a. High-level officials, to introduce the project and gather an understanding of the current processes (as designed), issues, and opportunities;
- b. Data analysts, to deepen understanding of the existing data on firms and applications (e.g. identifying points with high drop-out rates throughout the process);
- c. Communications teams, to get an overview of the current communications sent out to firms to encourage tax registrations;
- d. Admin teams who process the applications, to understand the application process lifecycle;
- e. Training officers, to understand the selection process of officers and the training given to staff;
- f. Frontline staff in local tax administration office, to understand the day-to-day interactions with applicants and their opinions on the current process;
- g. Taxpayers, to understand the motivations behind registration, declaration, and payment, as well as their user journeys.

Observation & participation:

- a. We went to a local tax office and walked through all of the steps in both registering for the subsidised tax regime and making tax declarations;
- b. We went through the process for an employer to enrol in the subsidised social security regime and how to register employees for social security.

3. Data analysis:

a. We analysed the tax authority and social security datasets.

B: Map the user journey

We then used the information gathered in the above Explore activities to create thorough user journey maps for both tax authority registration and for enrolling employees to social security. An example user journey map of the social security agency IMSS registration process, without the associated barriers, can be seen in Figure 2.2. (Ignore the acronyms, but note the granularity of the process that we have mapped.)

C: Assess behavioural barriers

Through our Explore findings and user journey mapping, we were able to identify several key behavioural barriers that were preventing employers and employees from enrolling into: RIF, Mexico's small business tax regime (provided by SAT, the tax authority); and RISS, a government and employer subsidised healthcare programme (provided by IMSS). These included:

- 1. Capabilities: Lack of knowledge by taxpayers of what to do;
- 2. Opportunities: The complexity of the processes;
- 3. Motivations: Inertia from taxpayers and lack of knowledge of reasons why to complete processes (penalties, and benefits for employees).



Chapter 3: Solution

What is the purpose of this phase? The aim of this phase is to design an intervention that is grounded in your Explore findings, insights from the behavioural science literature and feedback from the target group.

What will you do in this phase?

- A. **Generate intervention ideas.** Use a number of different resources to come up with ideas, including the behavioural science literature and BIT's EAST framework.
- B. **Prioritise intervention ideas.** This should be based on the potential for impact that you think they have, and how feasible (simple) they will be to implement.
- C. **Design and get user feedback on your chosen intervention.** This allows you to test whether end users understand and/or are likely to use your intervention.

How much time should you schedule for this phase? This will depend on the number and complexity of interventions you develop. Allow at least one week for initial ideas development and four weeks for getting user feedback on your chosen intervention and making refinements. Make sure you also allocate enough time to get sign-off from all necessary people and institutions. The time needed for this will depend on where you work and who is involved. Note that we would encourage you to start working on the trial design at the same time. (See Chapter 4.)

What will be the output of this phase? One intervention that has been fully designed, user tested, approved, and is ready for implementation.

A. Develop intervention ideas

There are many ways to develop interventions to address the barriers to your target behaviour(s) that you identified during the Explore phase. In this subsection, we go through three potential options:

- Review the behavioural science and other relevant literature. Adapt interventions that have been tried in other contexts and more general insights from studies and papers;
- Use BIT's EAST framework, available at: www.bi.team/publications/east-four-simple-ways-to-apply-behavioural-insights. If you want to encourage a behaviour, make it Easy, Attractive, Social, and Timely (EAST);
- Formalising existing ideas. Using an idea that has been informally tried out within your organisation, by target users or elsewhere in the relevant context already.

Review the behavioural science literature

First, you don't always need to come up with a new idea. There will often be evidence from studies that have tried to overcome similar barriers to those that you have identified. The idea of conducting a literature review may appear daunting, but what you should aim for here is not a comprehensive, academic literature review but rather a rapid appraisal of material on the internet, especially academic papers, policy briefs, and blog posts. (For example, see BIT's annual reports, publications, and other resources at www.bi.team.)

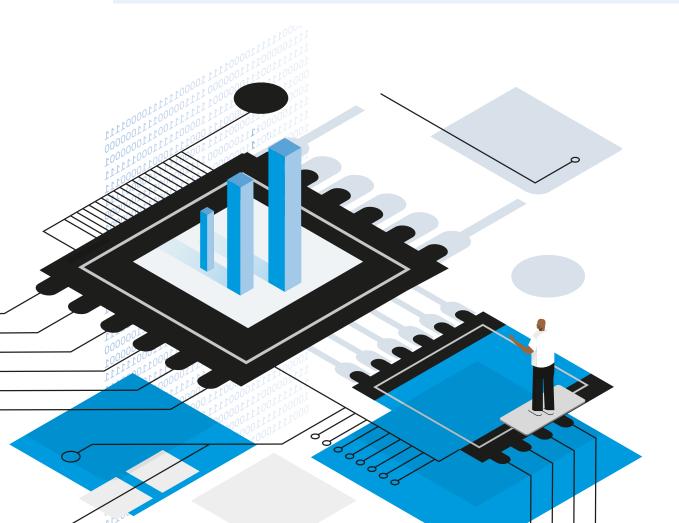
We suggest that you:

- Try a number of different types of search terms, such as the target behaviour, the behavioural barriers, enablers, or the policy area;
- Prioritise review papers, particularly systematic reviews;
- Start with the most recent papers and reports;
- Look for highly cited papers (i.e. papers that have been frequently referenced by other papers);
- Prioritise the most relevant papers and reports (i.e. those that have tried to achieve similar goals, overcome similar barriers, or targeted similar audiences to your target audience).

Often, these studies will come from the field of behavioural science, but they might not always be easily identified as such, so search widely. For example, a study on how to encourage student attendance might not carry a 'behavioural science' label.

Box 3.1 - Mechanisms: Behavioural interventions can be delivered in various different ways and you will need to think about how your intervention can be delivered. Potential mechanisms include:

- Individual communications such as letters, emails and SMS. These are among the most common
 channels for delivering behavioural interventions because they are low-cost and often already in a
 government's or NGO's 'toolkit'. They can usually be evaluated relatively easily through RCTs (see
 Chapter 4) and are generally the perfect first intervention for an organisation new to BI projects;
- Information or training such as posters at front-line services for users or training for headteachers on how to manage schools. Information or training can be delivered physically or online;
- Changing or simplifying processes such as removing unnecessary forms or changing scripts for front-line staff;
- Creating or adapting infrastructure such as building public handwashing stations or changing a road intersection.



The EAST framework

If you are looking for general principles, rather than specific ideas that other people have already tried, then BIT's EAST framework (available at: www.bi.team/publications/east-four-simple-ways-to-apply-behavioural-insights) is a great source for ideas. It can also be useful for refining existing ideas or interventions that your organisation is already implementing and make them grounded in behavioural science. The framework summarises four simple principles from the behavioural science literature. If you want to encourage a behaviour, make it Easy, Attractive, Social and Timely.

Below, we give examples of concepts for each of the principles. For further details, see our EAST report which includes examples of behavioural interventions that BIT has implemented within each category of the framework. BIT has also created an EAST Card Deck which we use in ideation sessions to apply principles from the framework to the policy challenge at hand. If you are interested in finding out more about these cards and purchasing a deck, please contact us at info@bi.team.

Easy

One of the most important lessons from the behavioural science literature is that even when people want to do something, they can become deterred if it's not easy. It's important to recognise that often very small, seemingly irrelevant details can make a task feel more effortful, such as having to read unnecessary information or repeating the same steps several times. Removing these frictions makes it more likely an individual will perform the target behaviour. Similarly, communications and instructions should clearly highlight what you want people to do (or what they are required to do).

Example: In collaboration with the United Nations Development Programme (UNDP) and Act for Involvement, we simplified a process to help people living with TB in Moldova to comply with their medication plan. ¹⁰ TB patients are required to take medication over a long period of time (typically six months), even after their symptoms have disappeared. The World Health Organization guidelines recommend Directly Observed Treatment (DOT), where TB patients must be observed by a doctor or nurse when they take their daily medication. However, visiting a clinic each day is inconvenient and may lead to lower adherence. We created a virtual form of DOT (called VOT) where, rather than going to a clinic, patients can record a video of themselves taking their pills from their home whenever during the day works best for them and submit the video to a medical professional for verification. We found that VOT increased observed adherence from 44% for DOT patients to 84% for VOT patients, simply by making the process easier for patients to adhere to.

Attractive

Making an action attractive is about two main things: drawing attention to it, and making the action more appealing, often with rewards or incentives. For example, people are more likely to respond to a formal letter with a handwritten sticky note on top which summarises the request because it is novel and indicates a personal touch.¹¹ The way rewards are offered and framed also influences how attractive they are, even when their actual value remains constant.

Example: To support the Government of Mexico's flagship conditional cash transfer programme, Prospera, BIT worked with a consortium of partners to encourage bank account usage among beneficiaries. ¹² One intervention we tested consisted of providing banking agents with a poster to promote their services and offered an incentive of three small items (a cap, a thermos, and a folder) if they completed more than 20 transactions with Prospera beneficiaries within two months. These incentives, which did not cost a lot, but were valued by the agents, almost tripled the likelihood that beneficiaries would use these banking agents at least once.

9 Behavioural Insights Team (2014). EAST: Four simple ways to apply behavioural insights. Available at: bi.team/publications/east-four-simple-ways-to-apply-behavioural-insights/

10 Behavioural Insights Team (2019). Tackling tuberculosis in Moldova. Available at: https://www.revenue.ie/en/about/
11 Irish Revenue (2013). "Survey of Small and Medium Sized Business Customers" Available at: https://www.revenue.ie/en/about/
publications/business-survey-2013.pdf

12 The Behavioural Insights Team (2019). International development and behavioural insights Summary report 2017-19. Available at: bi.team/wp-content/uploads/2019/03/BIT_International_V4-Interactive-28.3.19.pdf

Social

Humans are social beings and we are heavily influenced by what those around us do and say, especially those close to us. Highlighting what most people are doing (i.e. pointing out existing social norms) can encourage us to do the same. Social networks can also be used to facilitate the adoption of a new behaviour and to provide support to those who find it challenging. Similarly, carefully choosing the messenger of information can improve the response if this person is someone we respect or trust. Finally, asking individuals to publicly commit to certain actions in front of people they care about can increase the likelihood that they will follow through on that commitment.

Example: In order to address the challenge of antimicrobial resistance, BIT and Public Health England ran a trial to reduce the prescription of antibiotics when they are not needed. General practice physicians (GPs) who were prescribing more antibiotics than the majority were sent a letter from England's Chief Medical Officer (an important source of authority for GPs) stating that "the great majority (80%) of practises in [the recipient's local area] prescribe fewer antibiotics per head than yours." Simply describing what most GPs do significantly changed the behaviour of GPs who were overprescribing antibiotics; it led to a reduction in prescribing rates by 3.3% compared to those who didn't receive the letter.

Timely

Timing matters in many different ways. People react very differently to the same information depending on when they receive it. Our decisions are often influenced by information we receive in the moment, rather than by something we read or heard several months ago. We are also more likely to change our behaviour, including the adoption of new habits, during periods of transition when previous habits have been disrupted (e.g. when starting a new job or moving to a new city). Interventions should also take into consideration that we value the present more than the future. This means that we prefer actions that have benefits now and costs later. Finally, committing to a future action and planning in advance can help us follow through on our intentions.

Example: In partnership with the Indonesian Tax Authority, BIT ran a trial testing the impact of different emails on the likelihood of filing a tax return two weeks or more before the annual filing deadline, with the intention of reducing the queues and pressures on the system caused by last-minute filing. The most effective email included a link to a website to choose a filing date and sign up for reminder emails two days before and on the selected date. The follow-up emails then asked taxpayers to plan in detail how they would file their taxes. This project highlights the efficacy of asking people to commit and plan in advance and of sending timely prompts where people might otherwise forget.

Use existing ideas

Last but not least, think about if solutions are already being tried out on a small-scale. During your Explore fieldwork you may have encountered instances of some frontline staff already implementing strategies to encourage your target behaviour, albeit in a non-formalised and sometimes non-systematic way. Alternatively, you may hear ideas from end users of things they've tried or recommendations they have.

These methods may even fit within some of the EAST principles above. For example, frontline workers of an agency may have come up with new ways to make it easier for citizens to comply with requirements or may be sending reminders just before a deadline. If you observe that such efforts seem to be working on a small scale, one option will be to refine and implement these ideas on a larger scale to trial them for effectiveness.

Activity 3.A: Develop intervention ideas

How much time should you schedule? One to two days for the desk research; two to three hours for the work session.

Who should be involved? For the desk research, one to two team members, including the Behavioural Insights expert. For the work secession, include the whole project team and additional stakeholders who work on the policy challenges (e.g. frontline staff), including the Policy and context expert. The more diverse the group of attendees, the more diverse the list of ideas is likely to be.

Desk research:

- 1. Review the user journey and the barriers and enablers that you identified during the Explore phase.
- 2. Use the following approaches to generate a first list of intervention ideas:
 - a. Review existing studies. What interventions have impacted your target behaviour and addressed similar barriers elsewhere? What ideas from other areas could you adapt?
 - a. Use the EAST framework. What interventions address existing barriers to make your target behaviour Easier to perform, make it more Attractive, leverage people's Social nature, and prompt action at Timely moments? The checklist in Worksheet 3.A can help you identify new ideas but also refine existing interventions, such as government communication or processes.
 - Identify ideas that have been informally implemented to address the barriers you identified.

Work session:

We recommend using a 'Thinkgroup' to gather everyone's ideas and to avoid a situation where one or two people dominate the room. It's a simple process that involves anonymised brainstorming to make sure everyone - no matter their level of seniority or status - feels free to contribute ideas without judgement. This is because good ideas can come from anywhere! The steps involved are:

- Project team members present findings from the Explore phase to provide everyone with relevant background.
- 2. Attendees individually brainstorm potential intervention ideas. Give attendees time to write all their ideas down on individual post-it notes (or a shared online document if the meeting takes place online). People's ideas should not be easily attributed to them (e.g. don't give people their own unique colour of post-it notes). You might also want to introduce the EAST framework to give people a starting point for their ideas.
- 3. Attendees discuss all the ideas, group similar ideas together, and link them back to the barriers. You will narrow this longlist down in the next step, but it is fine to already eliminate ideas that are not linked to any of the barriers.

By the end of this Thinkgroup, you should have additional behavioural intervention ideas that your team can add to those identified in the desk research.

Output: A longlist of intervention ideas that address one or several of the barriers identified during the Explore phase.

Note: There is no worksheet for this activity.

B. Prioritise intervention ideas

The previous step will give you a longlist of intervention ideas. As it is unlikely that you will be able to test or even refine all of them, try to narrow down the list by looking at:

Potential Impact: What do you think is the potential for impact on your target behaviour/outcome of interest. While the Trial phase will help you answer this question conclusively, the following questions can help with a preliminary assessment:

- Is there evidence in the literature/from other studies to suggest that the intervention is likely to be effective?
- Is the intervention likely to be effective also in this context?
- Does the intervention address one or several of the barriers you identified? If this barrier is removed, will behaviour change be likely, or are there other, more important barriers remaining?
- Considering the expected costs of the intervention and the impact it could have, is the initiative likely to be cost-effective?
- Are there any potential safety considerations, possible negative side-effects or any other ethical concerns?¹⁴
- Is it possible the initiative will have a negative effect on equity?

Feasibility: Consider whether it's practicably feasible to implement the intervention both at the scale you would need for an RCT, but also - and importantly - at scale, if rolled out later on. The last thing you want is to design an intervention that works, but that you don't have the buy-in, resources, or authority to scale up or that would require substantive changes. (See Chapter 5.) Consider:

- Is it practically possible to implement the intervention?
- How easy will the intervention be to implement?
- Do you have the budget to implement the intervention?
- Will key stakeholders view the intervention as acceptable?
- Are legislative or operational policy changes required?
- Do you/does your organisation have the authority to implement the intervention?
- If found to be effective, could this intervention **feasibly be scaled up** to the entire population of interest? Consider buy-in, cost, human resources, logistics for delivery, etc. For more information, see Chapter 5.

Activity 3.B: Prioritise intervention ideas

How much time should you schedule? One hour.

Who should be involved? The project team, including the Project delivery and the Policy and context experts.

- 1. Individually, score each intervention idea for potential impact and feasibility using the prompts in Worksheet 3.B, the list of additional questions above, and other criteria you deem relevant.
- 2. Discuss your findings in a group and agree on one or two interventions that have the highest potential for impact and highest feasibility to take through to the next activity.

Output: One to two intervention ideas to design and adapt in the next activity.

Box 3.2 - Evaluation options: Before making your final intervention selection, we suggest that you read through Box 4.1 and section A of Chapter 4 to determine your evaluation design, and then return to selecting and finalising your intervention. Some of your chosen interventions may only be suitable for certain types of evaluations, and it's good to have this information before selecting the idea that you will refine, test with end users, and eventually trial. If you want to run an RCT or other rigorous evaluation, this is also the point where you would discard any ideas that are not suitable for this. If you are planning to take a different approach to evaluation, then this might be less relevant.

C. Design and adapt your chosen intervention

Once you have narrowed down your list to a small number of intervention ideas you think have the potential for high impact and can feasibly be implemented both for a trial and at scale, it is time to turn these ideas into actual interventions and refine these until you have a draft that you think has a good chance of succeeding. This process will involve mocking up/designing the actual intervention and obtaining feedback from end users, experts, and other stakeholders. It is ideally also iterative; that is, you start with a rough draft that you obtain feedback on, then refine, and obtain another round of feedback, and so on.

Design

The design process - that is, turning the idea into something tangible that could be implemented - depends on the type of intervention. If you are making a process easier to use, then this could just involve stripping out frictions such as unnecessary forms or procedures. In practice, even here, you will quite often have to combine several forms or change the remaining steps slightly. If your intervention idea is a new or changed communication, incentive, or adding something new to a process, then the design process will be more involved.

It is a good idea to start with a rough draft or mock-up of your intervention first, then obtain feedback from a focus group of end users on this first iteration. For example, a new letter does not need to be fully layouted initially or a new training for business owners does not have to be planned into the last detail. Just draft it in enough detail for the end user to be able to understand the main points.

Box 3.3 - Tips for designing communication interventions:

- 1. Write as clearly as possible: A 10-year old should be able to understand it.
- 2. **Keep it short:** Remove any unnecessary text, especially references to legislation and technical jargon.
- 3. **Focus on the essential:** The main things to get across are:
 - a. Why the reader received the message (e.g. "Your tax return is overdue");
 - b. What the reader has to do (call to action, e.g. "Declare your tax now");
 - c. How to do it (e.g. "Submit form 14A on the tax authority website"). If the behaviour is complicated, list the exact steps using numbers or bullet points, including relevant weblinks.
- 4. **Use visual effects carefully:** Put important information or actions in a box with bold font, but beware of drawing readers' eyes to too many places.
- 5. Make sure it is easily understood: Identify anything in your message that could cause confusion.

User testing

By the time you reach the intervention design stage, we assume that you will be very enthusiastic about your project and the ideas you have come up with. That's great, but it also means that you are less likely to spot its weaknesses. Therefore, once you have a rough outline of your intervention, bring it to the end user and other stakeholders to get their feedback. This is an iterative process, so don't be surprised if it takes many rounds of refinement before end users don't have any major feedback anymore and everyone in the project team is happy with the intervention.¹⁵

For example, for a project to encourage small business owners in Indonesia to regularly set aside money to be able to make their monthly loan repayments on time, we designed a calendar to track their savings and labelled envelopes to store the savings and reduce the temptation of spending the money on something else. We went through several rounds of testing with end users. At first, we just produced a rough sketch of the basic idea and presented it to business owners to see what they thought of the idea. Subsequent rounds presented iterations that were more and more refined based on previously collected comments. We also asked business owners to complete the calendar to see how they interact with the intervention and to make sure they actually understand how to use it (instead of just asking them whether they do, to which they might answer 'yes' to please us). Note that this process does not show us whether the actual intervention will have an impact on the behaviour of interest (making on-time loan repayments), but just whether the intervention has the potential to be effective.

In addition to end users, you might also want to get feedback from experts such as frontline workers. For example, for the above-mentioned project, we also asked staff at our partner bank, who would ultimately be in charge of distributing and explaining the intervention to customers, for feedback.

User testing is very similar to interviewing and observing in the Explore phase - with the main difference being that you show, give, or explain your intervention draft to the end user and ask them for their feedback. Again, make sure you plan your user testing activities in advance, including:

- What are your research/learning questions? These cover what you want to get feedback on and should be linked to the barriers the intervention is meant to address;
- Who do you want to test the intervention with? As for interviewing during the Explore phase, the number of people you want to receive feedback from can range from as few as five if the group of end users is very homogenous and likely to have the same views to a larger group if different end users are very different from each other. (See Box 2.1.)
- How will you test the intervention? Will you show it to the end user, ask them to use it, or simply describe the idea?

The user testing phase might either lead you to ideas for refinement of an intervention idea or to dropping the idea completely. Although it can feel like you failed if you have to abandon an idea, this is totally fine and indeed an indication that the user testing process is working as it should. The last thing you want is receiving (fake) enthusiastic feedback from the end users you present your intervention to and finding out later, at the end of the Trial phase, that your intervention idea was not actually suitable!

Reviews - quality assurance and ethics

In addition to formal sign-off from the relevant stakeholders and feedback from end users, it is always a good idea to get someone else to look over your work with fresh eyes, especially to make sure that your project doesn't have any ethical issues and that you haven't made any major errors.

At BIT, we always get the intervention and the research design reviewed to assure quality. This will generally be done by two different colleagues who have not been involved in the project: one who has not been involved in the project but has some expertise in the policy area and one who has expertise in research design. (For the Trial design work, see Chapter 4.) These team members are not necessarily senior but will have the necessary technical expertise and experience to provide suggestions and help to improve the quality of the overall output. Receiving a lot of comments at this stage is not a bad thing, but it should be seen as an opportunity to run the best project possible. If you don't have the necessary technical expertise in-house, consider approaching, for example, an academic for the technical review, especially of the research design.

In addition to this quality assurance process, you might also need to obtain an internal or external **ethics review** (e.g. from an institutional review board). Whether an ethics review is required or at least advisable will depend on a number of factors:

- 1. **Existing processes**. Your organisation's internal processes and laws in your country might already require an ethics review for certain or all projects.
- 2. Target population. Ethics approval requirements are usually stricter when the population of interest is considered vulnerable (e.g. children or ill people).
- 3. Intervention. If the intervention could be considered harmful or cause distress within the target population, you should seek ethics approval. Communication interventions, because they are relatively light-touch, often do not require this type of sign-off, but again, this also depends on the above factors.

You should try to obtain information on what approvals are required as early as possible to be able to address any concerns raised by approval committees in time before the launch of the trial. Record any ethical concerns, how you addressed them, and the approvals you received in the appropriate section of the research protocol. (See Chapter 4.) For example, for the project in Moldova to increase medication adherence among TB patients (see 'Easy' in Chapter 3.A), in addition to internal intervention and research quality assurance, we also obtained ethics clearance from University College London and the Ministry of Health in Moldova. Whenever possible, seek ethics approval from an ethics board based in the country where the trial is being implemented to ensure that the intervention and evaluation design are suitable for the context.



Activity 3.C: Design, review, and user test your intervention

How much time should you schedule? At least one to two weeks for simple interventions. More complex interventions might require several rounds of user testing and refinement.

Who should be involved? The project team, including the Project delivery (for sign-offs), Qualitative Research (for user testing) and the Policy and context (for user testing and refinements) experts. You might also need the services of a designer or other external supplier to design and finalise your intervention idea.

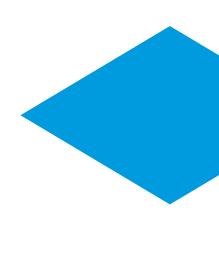
For each intervention ideas that you shortlisted in Activity 3.B:

- 1. Develop a mock-up/more detailed design of your intervention;
- 2. **Plan and conduct user testing**, starting with a rough draft and iterating from this. If you are new to user testing/prototyping, have a look at some of the great online resources out there to get a better idea of what is involved;
- Obtain sign-off, quality assurance, and, if relevant, ethics approval for your final intervention:
- Make any adjustments to maximise feasibility and potential impact before moving to the Trial phase.

Output: One intervention to take to the Trial phase. 16

Note: There is no worksheet for this activity







Case study: Business informality in Mexico - Solution

Continued from box on p. 29.

Task A: Develop intervention ideas

Following the identification of the behavioural barriers through the Explore phase, we conducted a thorough review of the behavioural science literature, case studies of what had (or hadn't worked) in similar domains across the world, and concepts from EAST, to develop an initial longlist of 20 interventions. These were high-level ideas, ranging from a tax lottery to giving new applicants vouchers as small incentives.

Task B: Prioritise intervention ideas

Because this was our first project focused on business informality with the Mexican Government, feasibility was weighted more heavily than potential for impact in our decision on which interventions to take forward. We ultimately chose two interventions to implement and evaluate:

- 1. SMS reminders to firms to submit tax declarations before bimonthly deadlines.
- 2. Letters to businesses with employees who pay their employees through electronic invoices but have not registered the same number of employees for social security. Highlight that their compliance will be monitored and frame non-compliance as an active choice.

We focus on the first of these two interventions for the remainder of our case study.

Task C: Design and adapt chosen interventions

The SMS reminders were refined using EAST, findings from BIT's previous research, and the behavioural tax literature. We designed three SMS around the following concepts:

- **Deterrence**: A number of recent studies have shown that highlighting the cost of noncompliance can increase declaration.¹⁷ This message highlights the fine possible if a taxpayer does not declare.
- Make it easy: Small details that make a task more challenging or effortful ('friction costs') can make the difference between doing something and putting it off sometimes indefinitely. We therefore provided a direct hyperlink to the RIF declaration web page in the SMS message.
- Reciprocity: Research shows that people have an inherent desire to reciprocate, to give back when
 they receive something or 'return the favour'.¹⁹ We hypothesised that by reminding taxpayers of the
 benefits they had been receiving from SAT, they would be more likely to feel a need to reciprocate
 and submit their tax declaration.

We then conducted light touch user testing and a small pilot of the draft versions of the SMS: First, we did some rapid, low key user testing. We showed preliminary wording of the SMS to a small number of taxpayers to find out: a) what they understood by the messages, b) anything that they didn't understand, and c) anything that they would change. We made a few small changes to the messages based on the feedback that we received including mentioning the tax type (RIF) in the message as some taxpayers have multiple tax obligations.

Second, we conducted a basic pilot of the messages - sending a small number of SMS through the database and system we would use for the trial (see also Chapter 4.B for more on preparing implementation). This gave us a test run of the implementation process and also led to further refinements to the messages. For example, the SMS were personalised to include the first names of taxpayers, but this meant that some messages didn't fit into one SMS due to long first names being added. Following this, we added Guadalupe as our hold name in the messages, as a nine letter name is at the 99th percentile of Mexican name length.

 ¹⁷ Hallsworth, M., List, J. A., Metcalfe, R. D., and Vlaev, I. (2014). The Behavioralist as Tax Collector:
 Using Natural Field Experiments to Enhance Tax Compliance. National Bureau of Economic Research, WP No. W20007.
 18 The Behavioural Insights Team (2014). EAST: Four simple ways to apply behavioural insights. Available at: bi.team/publications/east-four-simple-ways-to-apply-behavioural-insights/

The final SMS messages we sent out in the trial (following these revisions) were:

Deterrence

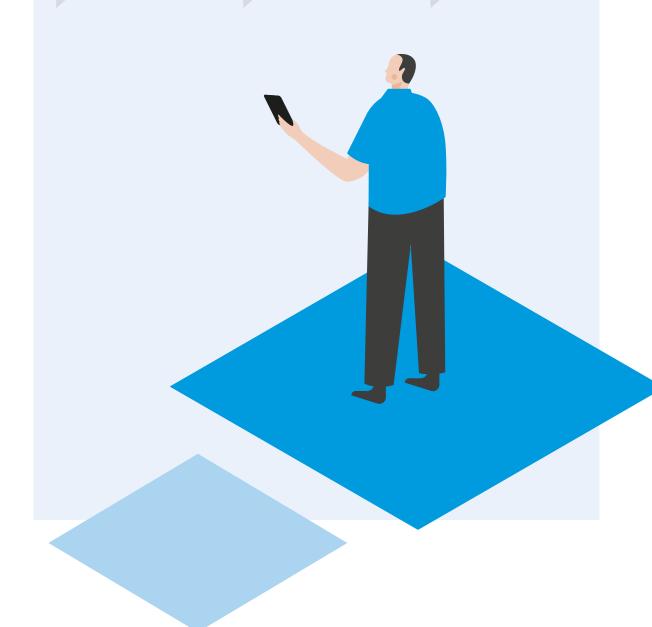
[Guadalupe] You should submit your RIF tax declaration before the end of the month. Please declare now avoid being fined with \$ 1240 or more. Thanks SAT

Make it Easy

[Guadalupe] You should submit your RIF tax declaration before the end of the month. Please declare now avoid at www.sat.gob.mx or call (55) 62722728 opt. 6. Thanks SAT

Reciprocity

[Guadalupe] You should submit your RIF tax declaration before the end of the month. Please declare now you have a reduction of [90/100]% on your payable tax. Thanks SAT





Chapter 4: Trial

What is the purpose of this phase? Evidence-based policy requires knowing what works and what doesn't. In this phase, you will conduct an impact evaluation to evaluate the impact of your intervention on your target outcome.

What will you do in this phase?

- A. **Design the RCT.** Define outcome measures, pre-specify analysis, identify who is eligible, and conduct power calculations to determine the sample.
- B. **Prepare and implement the trial.** Work through the practicalities of implementing and evaluating your intervention before launching it.
- C. **Analyse outcome data and present results.** Analyse the data as pre-specified and communicate results in an accessible way.

How much time should you schedule for this phase? It is a good idea to start this task in parallel with the Solution phase. You should allow at least ten full working days for trial design (Activities 4.A - 4.C). This is likely to be spread out over several weeks, as you will go back and forth between steps and might sometimes have to wait for additional information from internal or external partners. At the end of the project, allow the same amount of time to complete the analysis (Activity 4.C).

What will be the output of this phase? A trial result to help you decide whether you should scale up your intervention.





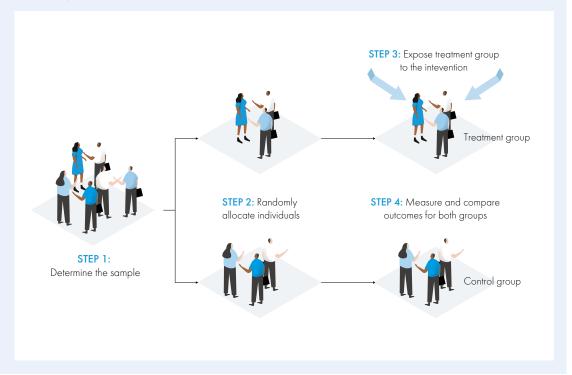
Box 4.1 - Why use a Randomised Controlled Trial (RCT)?

If you want to know whether your intervention has an effect on your target behaviour and how large this effect is, you need an impact evaluation. The aim is to find out by how much (if at all) outcomes in the group that receives your intervention (the treatment group) changed because of your intervention. It is impossible to know what the outcomes would be for this group without the intervention because they have received the intervention. So you try to find a group of people that is as similar as possible to the treatment group but didn't receive the intervention, and compare outcomes with them instead. This comparison group is known as the 'counterfactual' and helps us answer the question 'What would have happened otherwise?'.

RCTs solve the problem of establishing an observable counterfactual in a very elegant way: by dividing people into two groups randomly, we can be sure that on average these groups will have the same observable characteristics (e.g. gender, age, level of education) and unobservable characteristics (e.g. motivation). If the sample is large enough (see Chapter 4.A for information on power calculations), there's no reason why one group should differ from the other. Consequently, in the absence of an intervention, both groups' outcomes should be the same on average.

If you now deliver your intervention to the treatment, but not the control group and afterwards you find that the groups have different outcomes, you can be confident that this difference was caused by your intervention. The size of the difference in average outcomes between the two groups is called the 'effect size' of the intervention.

Figure 4.1 outlines the main steps for running an RCT with one treatment group and one control group, but the steps are the same for a trial with more than two treatment arms.



RCTs are often called the gold standard of evaluation. However, they might not always be the best route. They might be infeasible for practical or political reasons. For example, you may not have complete control over who receives the intervention. In this case, there are a number of alternative approaches, so called quasi-experimental methods (e.g. difference-in-difference, matching, regression discontinuity design - all advanced designs for which we recommend working with an expert), which define comparison groups without involving randomisation. You might also want to pilot your intervention at a smaller scale to test whether it can be implemented as planned and what people think of it before you invest the resources of running a full RCT to evaluate the impact on your target behaviour. We don't cover these approaches here, but we encourage you to think about whether it's an RCT or an alternative approach that provides the best insights for your project.

In this chapter, we take you through the different steps of designing and running an RCT. That said, we highly recommend collaborating with someone who has run RCTs before. Even the most detailed guide won't be able to outline all potential trade-offs and questions you might come across, and some decisions will have to be based on experience.

A. Design the RCT

This section takes you through the steps for designing the RCT before it's launched. When it comes to implementing an RCT, the details matter. We therefore recommend that you document the trial design and a detailed description of exactly how the trial will be implemented in a research protocol. A well-written research protocol will achieve four things:

- 1. Help you think through any problems with the trial design systematically before it's too late to change the process.
- 2. Clarify everyone's roles and responsibilities for planning, implementation, and analysis.
- 3. Create a record of the trial design so that
 - a. Someone else can analyse the trial's results in exactly the way you intended, if for some reason you can't do it yourself;
 - b. A different organisation that wants to run a copy of your RCT in a different context can make sure they design their intervention and RCT the same way and later compare their results to yours.
- 3. Make your evaluation more credible. There are many ways to analyse outcome data and different approaches can generate different results. Specifying your outcome measures and analytical approach in advance means you can't be accused of manipulating the analysis to get a better result.

The activities in this section take you through the steps to design an RCT and the output will form the basis of your research protocol. Before launching the trial, check that everyone involved in the implementation agrees with the content of the research protocol. During the trial, try to follow the research protocol exactly.

1. Define the outcome measure

During the Target phase, you will already have thought about your target behaviour and how you can measure it. At this point, you might want to revise/finalise your thinking around the exact target behaviour. All that remains after that is to define what exactly your outcome variable will be.

You might be interested in a number of different outcome measures. However, try to define one or two primary outcomes and use these to determine the success of your intervention. If your intervention had a significant impact on this/these outcome(s), you can say that it was successful. If you also want to look at other outcome measures, define these as secondary. They are of interest, but taken alone won't let you conclude that your intervention was effective at reaching your project objectives.

For example, in a trial on tax compliance that we ran with the Indonesian tax authority (see Chapter 3), our primary two outcome measures were whether someone had filed early and whether someone had filed on-time since our intervention aimed mostly at encouraging tax return filing. These were captured as binary variables (i.e. variables that only take two values: 0 for no or 1 for yes). The amount of taxes paid was the secondary outcome measure and captured by a continuous variable. While we were curious to see whether our intervention would have an impact on this, we were not as optimistic that it would, given that our intervention was not aimed at encouraging higher tax payments. On the other hand, we also wanted to make sure that we weren't accidentally decreasing tax payments by encouraging people to pay earlier.

2. Pre-specify the analysis

As discussed above, recording in advance how you will analyse your outcome data increases the credibility of your evaluation. This means defining the type of regression analysis you will run, including the control variables you might include, and the subgroups you want to look at.

For example, you might want to look at how your intervention affected the two subgroups of female and male taxpayers differently. Note that, of course, you can only analyse subgroups that you can identify with the data you have available – there is no point in planning to analyse the impact by gender, if you don't have any data on this.

3. Identify your sample

To decide how many individuals you will need in your sample and who exactly will be eligible to receive your intervention, you will need to think carefully about who to include and conduct power calculations. Note that you probably won't be going through these steps sequentially but think about both at the same time. Quite often, you might find yourself in a situation where you have to work iteratively. For example, you might define your sample first, then conduct power calculations to obtain the required effect size, then go back to change your sample.

Determine eligibility

This step might seem obvious, but make sure you identify who exactly will be eligible to receive the intervention before randomisation. The sample for your RCT is the group of individuals²⁰ that will be allocated to one of the treatment arms (i.e. the treatment or control group) and that you will collect outcome data for.²¹ It might or might not be different from your population of interest, which is the largest possible sample.

²⁰ Note that this is the case for individually randomised trials, that is, where individuals are randomly picked to receive the intervention. In so-called cluster RCTs, you allocate units at a 'higher' level, such as health clinics or classrooms (these are the clusters). Individual-level randomisation will allow you to work with a smaller sample, but the choice of the level of randomisation should ultimately depend on other factors too. We do not cover cluster RCTs in this guide.

²¹ Note that the sample size your power calculations suggest is always the final sample size, i.e. the number of individuals that both go through your entire intervention and that you can collect outcome data from. It does not take attrition into consideration.

For example, assume that you are interested in testing the impact of a reminder letter on the likelihood of filing a tax return. This letter will be sent four weeks after the deadline to those taxpayers that have failed to file a return up to that point. Your population of interest, or largest possible sample, are thus all taxpayers that have not yet filed a return (e.g. 25,000 taxpayers in your country). While for a costless intervention, you might want to include as many taxpayers as possible, a letter costs money and you therefore want to restrict your sample to determine its impact before sending it out to all taxpayers of interest. Your power calculations might have indicated that in order to be able to detect the effect size you are expecting, you will only need 5,000 taxpayers per treatment arm. This means that you could test one intervention with a sample of only 10,000 taxpayers (5,000 per arm times two arms) from this population of interest. On the other hand, if you want to test the impact of an email on the likelihood of filing a tax return, your population would have to be restricted to those taxpayers for which you hold an email address.

Power calculations

Running an RCT is an investment of time and resources, so you want to be confident that if your intervention truly has a positive impact, you will be able to detect it. Power calculations are mathematical formulae that tell you the sample size needed to identify a given impact (change) in your outcome variable. Power calculations can be fairly technical and complex, but luckily there are simple rules of thumb and some great tools available online.²²

Three main parameters matter for your power calculations: the (expected) impact of your intervention (effect size), the distribution (variance) of the outcome measure and the sample size. In practice, you will do one of two things:

- Determine how big your sample needs to be to detect a certain effect size in a statistically robust way. You can then increase your sample until you can detect an impact that you think is reasonable, given your intervention.
- 2. Calculate which effect size you would be able to detect in your analysis, given a certain sample size. If you have a set sample size that you cannot increase either because there are not more individuals eligible to be included or for budgetary reasons then this gives you a sense of how big an impact your intervention would need to have. If you don't think the effect size is realistic, you will need to decide whether you want to redesign the intervention to make it more impactful, find a way to increase your sample size, or live with a lower level of power (i.e. less robust evidence).

Figure 4.2 shows how likely detectable effect sizes vary with sample size for a two-arm trial (e.g. where your total population is divided between one treatment group and one control group). It uses a binary outcome measure (e.g. filing a tax return or not) with a baseline rate of 60% (e.g. 60% of participants in the control group file a tax return). With a total sample of 1,000 people (500 per group), you would be able to reliably detect an 8.5 percentage points (ppts) increase (from 60% to 68%, see graph below). This is your minimum detectable effect size (MDES). If your sample size decreases, the MDES increases - that is, you would need a more powerful intervention. If, for example, your sample is reduced to 250 people (125 per group) you will only be able to detect a 16.4ppt increase (this would mean that the rate for the intervention group would have to be 76%, from 60% in the control group). A good way to understand the intuition behind this is to think of a picture: if the picture has very few pixels (= a small sample), you will be able to see the main features of the picture and colours. By contrast, if the picture has a large number of pixels (= a large sample) then you will be able to see the very fine details.

If the outcome of power calculations and your sample size allows you to compare several interventions at the same time, you can also test several interventions at once. These could be entirely different interventions (e.g. a text message and a letter) or several variations of the same intervention (e.g. letters using different messages based on BI).

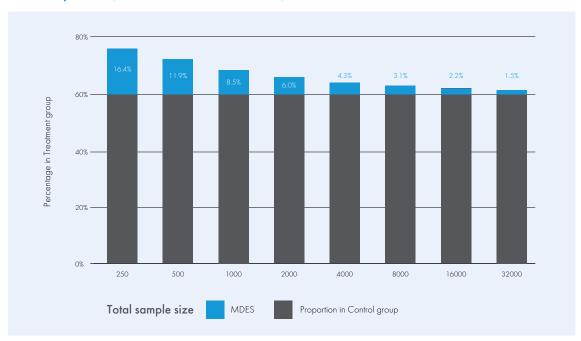


Figure 4.2: Minimum detectable effect size (MDES) for a two-group RCT with 60% baseline by total sample size (i.e. for both arms combined)

While you should conduct power calculations using statistical software or an online tool, Table 4.1 provides some rules of thumb on the sample size you would need to run an individually randomised RCT with adequate statistical power.

Table 4.1: Rules of thumb for sample size calculation

Total sample size in two-group RCT	Is this enough power?
< 500	Very unlikely, unless your intervention is extremely powerful ²³
400 - 2,000	Maybe, but only if your intervention is very powerful
2,000 - 10,000	Good chance
10,000 - 20,000	Very good chance - BIT often operates in this range
20,000+	Almost certainly, even for interventions that have a very small effect

²³ This will almost certainly not be the case for interventions that rely on communication only, but require some more structural changes in the decision-making environment. For one example, see our trial on encouraging medication adherence in Moldova, published here and described in Chapter 3 above: bi.team/blogs/can-bi-help-tackle-one-of-the-worlds-top-killers/. Note that, in this case, we took repeated measures of the same outcome (adherence), which increased our statistical power.

4. Randomise your sample

Once you have identified the sample for your RCT, it's time to randomly allocate individuals to the various treatment arms. Randomisation means that you cannot predict which treatment arm a person will end up in before you actually conduct the randomisation. For example, sorting taxpayers by their name and allocating the first half to the treatment and the second half to the control group is not random, but flipping a coin to determine which treatment arm a taxpayer is allocated to is. Using a coinflip for large samples would, of course, be highly impractical. Luckily, computer software including Excel, Stata and R allow you to randomise within seconds.

In a large enough sample, you can expect that both observable and unobservable characteristics will be the same on average across treatment arms. However, if you want to be sure that this is the case for observable characteristics, especially for such characteristics that we expect to influence the outcome of interest, you might want to use stratified randomisation or conduct balance checks. Again, we recommend consulting an expert if you want to use one of both of these approaches.

Activity 4.A: Design the RCT

How much time should you schedule? One hour for the work session to define the outcome measures and sample. At least ten working days for desk work, including drafting the research protocol and randomising.

Who should be involved? We suggest that you first run a work session to discuss outcome measures and population of interest - those decisions that will require judgement calls based on organisational priorities. The work session should involve the entire project team, especially the Policy and context and Quantitative Research experts. After this, the Quantitative Research expert can conclude the trial design, including drafting of the research protocol and randomisation. Someone with statistical/impact evaluation expertise who is not involved in the project should then review the trial design. (See section on reviews in Chapter 3.)

Work session:

- Discuss and capture in Worksheet 4.A the primary (not more than two) and secondary outcome
 measures, including which data you will need to measure the outcome and on which scale it will be
 captured;
- 2. Discuss and define the population of interest and any exclusion criteria.

Desk research:

- 3. Define how you will analyse the impact of your intervention on the outcome of interest (i.e. which type of regression you will use, what other variables you will control for in your regression, and what subgroups you are interested in).
- 4. Determine the sample and sample size, by:
 - a. Reviewing the decisions on population of interest and exclusion criteria;
 - b. Conducting power calculations.
- 5. Draft a research protocol to capture all decisions.
- 6. Obtain a review of your trial design from an independent expert.
- 7. Randomise your intervention, using appropriate software.

Output: A research protocol that defines the trial design and a completed randomisation.

B. Prepare and implement the trial

Once you have designed the RCT and finalised the intervention, it is time for implementation. This might seem straight forward, but make sure to prepare the launch carefully to maximise chances that everything will go smoothly by running test launches (e.g. by sending the intervention email to a few team members) and by briefing everyone involved to make sure they understand their role and the evaluation approach.

In Box 4.2, we have outlined some of the most common pitfalls, based on our experience running more than 700 RCTs. Don't underestimate how long it takes for an intervention launch to be prepared properly. Even a simple email intervention can take up to a week to prepare, soft launch, and adjust.

Box 4.2: What can go wrong?

Designing the trial and capturing outcome data

- Not being able to collect all the data you think you could collect: Make sure you can collect all the data you are planning to use in your analysis, both for outcome measures and control variables. Also test the data collection system first. As an example of what can go wrong: For a project aiming to increase attendance at an event, we were capturing attendance by scanning a barcode on the participants' invitation. Unfortunately, the scanners had bluetooth turned on, and instead of saving the data on the device, they sent it via bluetooth with no receiving device connected. We lost all the data!
- Not setting randomisation seed: This is fairly technical, but most softwares will re-run the
 randomisation every time you execute the code or, for Excel, every time you click somewhere in the
 sheet. This will give you a different result every time, unless you give the system a so-called seed. If
 you forget this, it might be impossible to track in the data who received the intervention.
- Losing unique identifiers: A unique identifier is the variable(s) that allow(s) you to unequivocally
 identify an individual in the sample. This can be, for example, the taxpayer number; but in some
 cases you might need to define this as a running number based on a combination of different
 variables (e.g. names plus date of birth). When this is the case, make sure you save the file that
 matches these unique numbers and the individuals. Otherwise, again, you might not be able to track
 who has received the intervention.

Implementation

- Sending intervention to wrong group: In some cases, this won't be the end of the world if you know that it happened. For example, if the control group received the intervention, and the treatment group didn't, then you will simply have to change the 'labels'. It's worse if you don't know that it happened or if some people in the control group received the intervention and some didn't. To mitigate this risk, make sure everyone involved in the implementation knows exactly what they have to do and understand why they must not, under any circumstances, override those instructions (e.g. because they want to give everyone access to the intervention). You might feel like you're micromanaging people, but for an RCT that's totally fine and indeed necessary.
- System not working: Test the system you will use to distribute the intervention once (e.g. an email server or a post system). Then test it again. And maybe a third and fourth time. Don't rely on someone telling you that it has always worked. Check for yourself and, if possible, supervise the launch of the intervention.

Activity 4.B: Prepare and implement the trial

How much time should you schedule? One to two hours for an initial work session. At least two weeks to test all the systems and brief everyone.

Who should be involved? The whole project team, especially the Project delivery and Policy and context experts, and those in charge of implementation.

Work session:

- 1. Use Worksheet 4.B to:
 - a. Plan who will do what during the implementation of the trial;
 - b. Brainstorm potential risks and how you will address them.

Desk/follow-up work:

- 2. Capture the implementation plan and risks in the research protocol to have all information in one place.
- 3. Brief all team members on the project, the evaluation approach, their role, and the importance of following the research protocol.
- 4. Test all the systems and do a soft launch (e.g. by distributing test versions of your intervention).
- 5. If things go wrong or you need to change something after the launch, record what happened in a 'trial implementation log' and refer to it when you analyse the outcome data. This log can be a simple document where you write down anything that didn't go according to plan. For example, the internet stopped working after you had sent half of the intervention emails, and you had to send the rest the next day.

Output: A launched RCT, with risks addressed in advance and a system to capture and address challenges should they occur.

C. Analyse outcome data and present results

After you have waited for the end of the outcome measurement period, it's time for the most exciting part of the trial: analysing the outcome data. Regardless of which software you use, the steps normally involve:

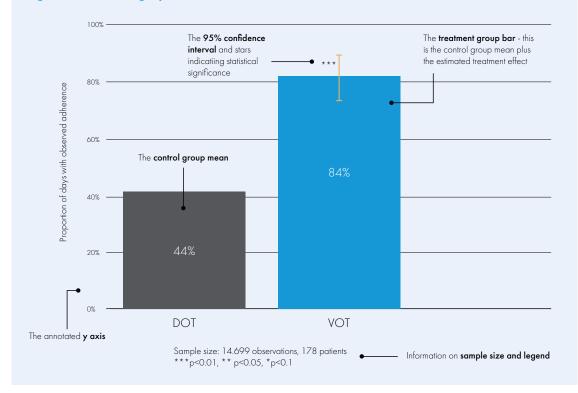
- Cleaning the data to get it into a format that you can use for analysis and to get rid of any obvious errors.
- 2. **Creating summary statistics**, including the average outcomes for each trial arm, minimum values, and maximum values to check the data makes sense.
- 3. **Conducting your analysis** to determine whether the difference in average outcomes between the trial arms is statistically significant and practically meaningful. Not every effect size that is statistically significant implies a practically meaningful change in outcomes.
- 4. **Present your results in graph**s to quickly show readers of your reports the main findings. (See Box 4.3 for more detail on this.)

We propose to summarise the analysis in a short, technical analysis report, including any decisions which led to deviations from the analysis described in the research protocol. This report is usually an internal document, so be as honest as possible even if there were major issues in the implementation of your intervention that you don't necessarily want the whole world to know about. The report can then form the basis for any publications and presentations.

Box 4.3 - Presenting results visually:

There are many different ways of presenting results from an RCT. At BIT, we usually use bar charts, with one bar for each trial arm. It's simple and makes intuitive sense. At the same time, you can include most of the information that a statistically minded person would want to see. Below is an annotated example from our project to encourage adherence to TB medication in Moldova. (See 'Easy' in Chapter 3.A.)

Figure 4.3: Results graph



Activity 4.C: Analyse outcome data and present results

How much time should you schedule? Two weeks from the end of data collection.

Who should be involved? This activity will be led by the Quantitative Research expert, but the Project delivery and Policy and context experts can help interpret results and draw out the key lessons for the target audience.

- Collect and analyse your outcome data according to the method you specified in the research protocol.
- 2. Present the main results in a graph (see Box 4.3).
- 3. **Draft a short analysis report** that details the analysis you conducted, how it deviated from the research protocol and how to interpret the results.

Output: Your trial results, summarised in an analysis report.

Note: There is no worksheet for this activity

Case study: Business informality in Mexico - Trial

Continued from box on p. 40.

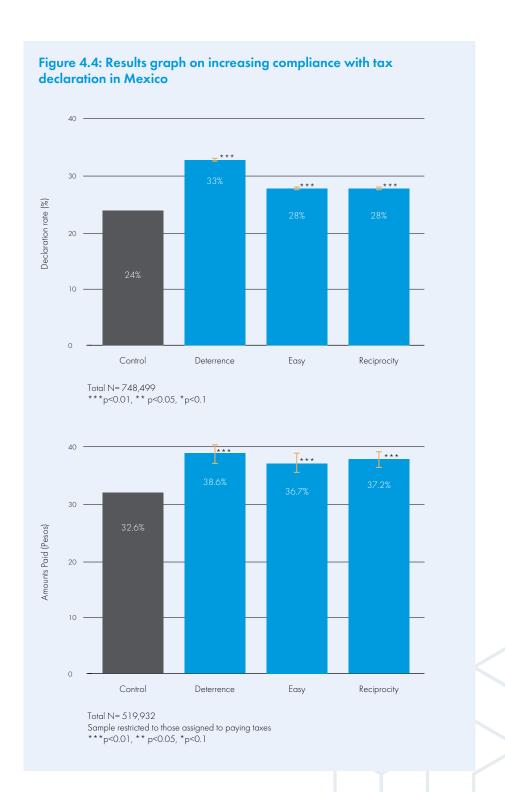
We decided to proceed with two separate trials as part of this collaboration with Crezcamos Juntos, one aimed at increasing compliance with tax declarations, the second aimed at encouraging employers to register their employees for social security. For brevity, we only describe the first trial here.

The trial: Our first trial was conducted in partnership with the Mexican tax authority, Servicio de Administración Tributaria (SAT). The largest possible sample consisted of 748,499 businesses who had not yet submitted their declaration for the May/June 2016 bi-month. The businesses received either one of three SMS reminders, or no reminder (see Chapter 3). Since the intervention was close to costless, we decided to include all businesses that fulfilled the eligibility criteria in the RCT to maximise statistical power and have the smallest possible MDES. Our two primary outcome measures were:

- 1. Whether a business in the sample declared their tax on time (binary variable);
- 2. The amount paid (in pesos, continuous variable).

The results: All the SMS were effective at encouraging businesses to declare revenues on time and pay taxes. The most effective reminder, the 'Deterrence' message, increased declaration rates from 24% to 33%.²⁴ (See Figure 4.4.) This increased revenues of 6 pesos per firm on average – a return on investment of 400% for the SMS (even though taxpayers were still in the first two years of the scheme and thus received a 90% or 100% subsidy).

In addition, we tracked compliance with future declaration deadlines and found that the effects of our intervention remained significant more than four months after the SMS were sent.





Chapter 5: Scale

What is the purpose of this phase? Report on the results of your project. Implement the successful intervention at scale to achieve maximum social impact. Discuss potential reasons if your intervention did not have the intended impact. Celebrate both successful and unsuccessful interventions as a learning experience.

What will you do in this phase? Whether or not your intervention worked, you will decide what to do with your findings. Organise a meeting with the project team and key decision makers to plan the next steps.

How much time should you schedule for this phase? The decision whether to scale or not can take a while, depending on whose sign-off you will have to obtain and what additional preparation has to be taken.

What will be the output of this phase? Depending on whether your intervention had the intended impact, a plan for how to scale up a successful intervention or insights on why an intervention was not successful. Ideas for future projects.

A. Communicate your results

The previous step will have given you an analysis report. However, this will normally be a fairly technical document, which few people outside the project team will have the background, time, or interest to read through.

Now is the time to think about how to communicate the results of your project more widely. This can be through blog posts (a format that we at BIT chose most often), policy briefs (your organisation might have a set format for these already), presentations, Twitter, etc. Choose whatever works to spread the word to those people you want to learn about your work.

Communicate the results as soon and as widely as possible! It's easy to relax after you have analysed your results and focus on other things, but you will only be able to influence policy making if your results reach those that make the decisions in a timely manner.

Finally, publish the results regardless of whether the intervention worked. It's just as important to know what works as it is to know what doesn't work. This contributes to the evidence base that policy makers and researchers globally all benefit from. Surely you would want to know if a particular intervention has been tried in several different contexts and never worked, before you try it yourself.

Whether your intervention delivered significant results or not, we would love to hear about it and your feedback on this guide. Please tell us about your project via our website: www.bi.team/publications/testsguide.

Activity 5.A: Communicate your results

How much time should you schedule? One hour for an initial planning session. Then, to keep yourself accountable, set deadlines for publication of different outputs.

Who should be involved? The project team, including the Project delivery experts.

Work session:

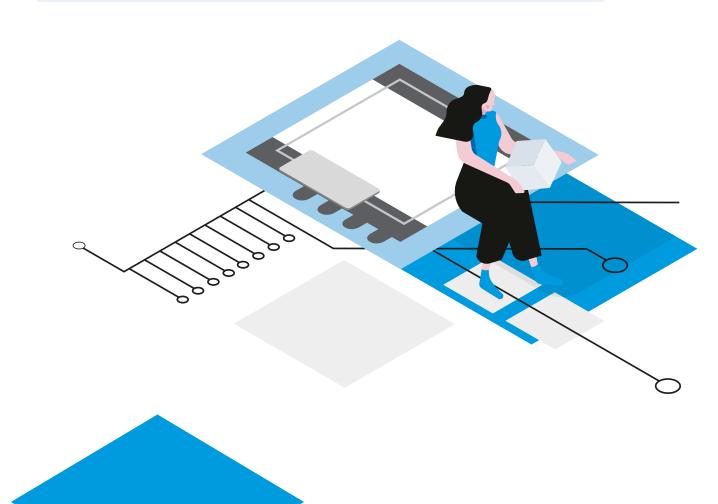
- 1. In the project team, discuss how you will communicate the results to stakeholders within your organisation, external stakeholders and the public. Target your communication at your different audiences and consider the following formats:
 - b. Blog posts or other online communications;
 - c. Policy briefs;
 - d. Presentations;
 - e. Academic papers. (These will be very similar to the analysis report, and tend to be worth the substantial effort only if you want to influence academic debate.)
- 2. Decide who will be leading on which communication activity and when it will be published.

Desk work:

- 3. Draft the different communication outputs;
- 4. Obtain reviews and sign-off before publishing.

Output: Targeted communication outputs for your different audiences.

Note: There is no worksheet for this activity



B. Scale if the intervention worked

If your intervention had a significant positive impact on your outcomes of interest, you'll undoubtedly be happy. But don't relax yet; you don't just want to show that you had a good idea, but you want to make sure that as many people as possible can benefit from it. You will have thought about scaling your intervention already when assessing the feasibility of your intervention in the Solution phase. (See Chapter 3.B.) An intervention can be scaled in many different ways: implementing the same intervention with the same group of people again in the future, or rolling it out to more individuals in the same or a similar population (e.g. the same group of taxpayers in a different part of the country). You might also want to refine your intervention to make it more impactful before scaling it up.

1. Implementing the same intervention again in the future.

This is particularly relevant if you want to encourage a regularly occurring behaviour, such as filing of annual tax returns. It is relatively straightforward, but you should think carefully about whether there might be a decrease in the effectiveness of the intervention if individuals receive it again and again. For example, a somewhat 'threatening' message to taxpayers to remind them of the legal consequences of non-compliance might only work the first time.

2. Rolling the intervention out at a larger scale.

This is the potentially more complicated option and you will have to consider a number of factors, summarised as SCALE:

- Sponsorship Do you have the demand and commitment from senior officials and frontline service providers to scale the intervention? If there are implementation costs either for the intervention itself or to put the right systems in place (see Logistics below) you will need strong buy-in from senior leaders and politicians.
- Cost/benefit Can the intervention be delivered at scale in a cost-effective way? If the intervention is an email, the answer is probably yes. But if the cost of implementing the intervention at scale is higher than during the trial, this is not as straightforward. Consider whether narrowing down implementation to a subgroup where it is most effective or cheapest to implement will make the cost-benefit trade-off positive.
- Accountability Who will be responsible for implementing the intervention at scale, who do they report
 to and do they have the necessary systems? If an external organisation will be responsible, your project
 team may need to provide support in the beginning.
- Logistics Can you make sure the intervention will be implemented as intended when it is scaled? Things to consider include:
 - Implementation mechanisms. For example, if you hand-delivered letters during your trial but are now
 planning to use an unreliable postal service to send the letters, a smaller proportion of people will
 actually receive them so the average effect will be smaller. However, it could still be worth scaling the
 intervention if the population is large and the cost is low.
 - Human resources and training. If implementing the intervention requires frontline service providers to
 increase or change their job responsibilities, you may need to create a training program to help them
 adapt. If you need frontline workers, such as teachers or tax officials, to deliver the intervention and
 this takes time, you will need to make sure you have enough people to implement the intervention as
 intended.

- Evidence Do you need further evidence before scaling up? This is particularly relevant if:
 - You ran the RCT on a sub-sample of the population (e.g. students in the capital) and are now planning to give the intervention to a more diverse group (e.g. all students in the country). The question here is whether your results are externally valid (i.e. whether you can expect the results from your RCT to also hold in this different population). Ideally, you would want to run another RCT to test this. If this is not possible, think about whether 1) there is the risk of backfire effects for the new population, 2) the intervention is still cost-effective even if it has (close to) zero impact in the newly added group.
 - You need to adjust the intervention (slightly) based on experience from the trial. For example, you realised that sending letters is not feasible, and want to send out emails with the same content instead people might react differently to these. Again, if an additional RCT is not possible, think about potential backfires and/or whether it's worth implementing the intervention even if the impact is negligible.

3. Tweaking to increase impact before scale-up.

If your intervention worked but the effect size was too small to make a meaningful difference to people's lives, you might not want to scale it up straight away. Instead, you could conduct further research to build on your findings and try to increase the effectiveness of your intervention further. In this case, we recommend you:

- Return to the Explore phase to better understand the barriers to the target behaviour
- Create a sample of trial participants that shows a good balance in terms of age, professional
 background, or location and conduct qualitative research, asking them about their experience of the
 intervention and suggestions for improvement.
- Return to the Solution phase to brainstorm additional ideas and get expert advice.

Activity 5.B: Plan for scaling if the intervention had a positive impact

How much time should you schedule? Two hours to discuss next steps. Planning can then take days to weeks, depending on what sign-off and logistics are required.

Who should be involved? The project team, including the Project delivery and Policy and context experts and any key stakeholders who would be involved in scale up - this includes decision makers but also representatives of the group of individuals that would deliver the intervention.

- 1. Discuss what a scale-up of the intervention will look like:
 - a. Implementing the same intervention again in the future;
 - b. Rolling out the same intervention at a larger scale;
 - c. Tweaking the intervention to increase impact before scale-up.
- 2. Plan for scale-up, including obtaining sign-off, planning logistics, and allocating responsibility. Use Worksheet 5.B if you plan a roll-out at a larger scale.

Output: A plan for scale-up



C. Plan next steps if the intervention didn't work

It's disappointing if your intervention didn't have a statistically significant positive impact or even backfired (i.e. had the opposite effect you intended). Don't despair! Around half of all interventions in pre-registered studies fail to show a statistically significant impact.²⁵ Each trial is an opportunity for your organisation and other policy-makers to learn. Even trials with null results have things to teach us. For example, the Explore activities might have given you valuable insights into how end users view the system, what works, and what doesn't. They might also have provided ideas for policy changes that go beyond those that you can test in a BI project.

Furthermore, it is just as important to know what intervention doesn't work as it is to know what does. It means that your organisation won't waste money implementing an intervention at scale that isn't effective. Unsuccessful trial results also help you generate new intervention ideas for testing in the future.

One of the limitations of RCTs is that they can tell you whether something worked (or didn't work) but not why (not). Conducting follow-up qualitative research (interviews or focus groups) with selected trial participants can help you understand and interpret your trial results. Ask individuals whether and how they received/used the intervention and what feedback they have (similar to the user testing stage in the Solution phase). Then use these insights and anything else you learned during the implementation to discuss with your project team and any key stakeholders potential reasons why the intervention did not work and what the lessons learned for your organisation as well as for the next project are. Be aware though that individuals might tell you what they think you want to hear, for example, by praising your intervention even if they never used/didn't like it.

If you suspect your intervention didn't show a statistically significant impact because your trial was underpowered (i.e. your sample was too small), not because it didn't work, you could test it again with a larger sample. However, we wouldn't recommend this if:

- Your regression analysis suggests that the estimate of your treatment effect is fairly precise
 (i.e. the standard errors are small and the confidence intervals are narrow), and it is unlikely that the 'true'
 effect of your intervention is large.
- Follow-up qualitative research with selected trial participants found a problem with the intervention (e.g. low take-up or messages that were misunderstood).

Finally, there is one case in which you might wish to scale up your intervention even if it didn't deliver statistically significant positive results: for a costless intervention or one that replaces an existing intervention at the same cost. If there is some evidence that this intervention worked (e.g. if the point estimate in your regression is positive and of a size that you consider practically relevant, even if it is not statistically significant), you might want to roll it out or replace your existing intervention.

²⁵ See: Warren, M. (2018). First analysis of 'pre-registered' studies shows a sharp rise in null findings. Nature. Note that these studies are mostly laboratory studies, which can be expected to be more likely to deliver significant results than field studies (which is what your RCT will count as), because researchers are able to conduct their experiment under much more controlled conditions.

Activity 5.C: Plan next steps if the intervention had no/a negative impact

How much time should you schedule? A few days for follow-up research. Two hours for the work session with the project team.

Who should be involved? The project team, including the Qualitative Research expert for followup research and the Project delivery and Policy and context experts and any key stakeholders to discuss lessons learned.

1. Conduct follow-up research with individuals from the treatment group, covering questions such as whether the intervention actually reached them, what they thought about it, and whether/how it had an impact on their behaviour.

Work session:

- 2. Discuss possible reasons for why your intervention had no/a negative impact, based on:
 - a. What you learned during the follow up research;
 - b. What you observed during implementation.
- 3. **Discuss lessons learned**. These can range from valuable insights from the Explore phase to what went well and what didn't during implementation.
- 4. Decide whether you are going to start a new project, which could entail:
 - a. Testing the same intervention with a new population or larger sample.
 - b. Improving the design of the intervention to make it more effective.
 - c. Designing and testing a new intervention aiming to change the same target behaviour.
 - d. Focusing on a completely new target behaviour.

Output: An overview of lessons learned and a plan for next steps.

At the end of this step, don't forget to congratulate yourself. Completing a BI project requires the willingness to take the risk of being wrong, determination to overcome challenges, and team spirit to collaborate with a range of partners. Most importantly, by taking an evidence-based approach to designing and implementing your program or service, you have improved the lives of the people you serve.

Note: There is no worksheet for this activity.



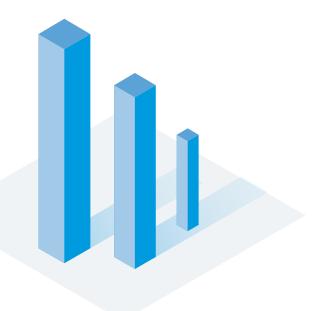
Case study: Business informality in Mexico - Scale

Continued from box on p. 52.

Following the successful trials, we organised round-table discussions and presentations with SAT and IMSS. We also presented the results at regional conferences and included them in BIT's Update Report.²⁶ Our partners then incorporated similar messages and letters to individuals and firms into regular processes.

In 2018, we replicated the SMS trial in Guatemala, where we had shared the results with our partners in the tax authority there. This time, we also trialled three SMS messages: an original message which included a link to the website (as with our 'Easy' message), a deterrence message, and a personalised message. We also varied the timing of these texts, sending each version before and after the declaration deadline to explore whether the timing of the messages also had an impact on tax declarations. The results supported our findings from Mexico, with a significant increase in the proportion of tax declarations made for all three messages when sent before the deadline. The messages, however, did not see the same effect when sent to late taxpayers after the deadline.

BIT often replicates its trials in other contexts (whether that be a different country, a different part of the same country or a different target group), to explore whether the concept of the behavioural intervention still holds in a new area. The successful replication of these findings in Guatemala suggests that this intervention could be scaled more widely across different locations. We would always encourage you to test a specific message first before rolling it out, though, even if it was effective elsewhere, because context plays a big role for what works and what doesn't.



Worksheets

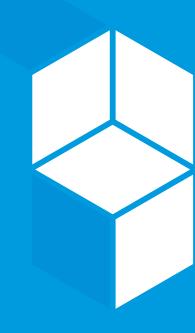
Worksheets and Feedback: Printable versions of this guide and the activity worksheets are available at: www.bi.team/publications/testsguide. We have also included a feedback form on this page. If you use this guide to implement a project, we would love to hear from you!





1. Target

Choose a specific behaviour to change



Worksheet 1.A: Identify target statements

How long? 1-1.5 hrs

Discuss your organisation's current policy objectives and identify objectives that are not being met due to the behaviour of individuals involved. For 2-3 of the most important ones (per objective), identify:

- Whose behaviour you want to change (e.g., employers in the manufacturing sector);
- What this behaviour is (e.g., register their employees for social security);
- When you expect it to happen (e.g., before the end of the fiscal year).

Policy objective	Target behaviour	Target statement (include: who/what/when)

A worked example of this activity can be found on the next page.

Worksheet 1.A: Identify target statements – worked example

Discuss your organisation's current policy objectives and identify objectives that are not being met due to the behaviour of individuals involved. For 2-3 of the most important ones (per objective), identify:

- Whose behaviour you want to change (e.g., self-employed taxpayers);
- What behaviour you want to encourage or discourage (e.g., repay tax debt);
- When you expect it to happen (e.g., within one month of receiving a debt statement).

Policy objective	Target behaviour	Target statement (include: who/what/when)
Combat tuberculosis	Tuberculosis patients adhere to medication.	Increase the number of days per week that tuberculosis patients take their medication during their treatment period.
	Doctors screens for tuberculosis amongst patients with symptoms.	Increase the number of patients who are screened for tuberculosis by doctors when first presenting themselves to a clinic with any symptoms.
Decrease risk of microbial	Doctors prescribe less antibiotics.	Decrease the amount of antibiotics prescribed by doctors in private clinics during the winter months.
	Patients request less antibiotics.	Decrease the number of patients who request antibiotics in private clinics during the winter months.
	Patients complete their full course of antibiotics.	Increase the number of patients from private clinics who complete their full course of antibiotics, when prescribed.

Worksheet 1.B: Assess impact and feasibility

How long? 1 hr

Conduct a high-level **impact** and **feasibility** assessment of each target statement. Use one copy of the sheet per statement. Use the prompts as a starting point to guide your consideration. However, you may need to come up with your own to fit the environment you are working in. Afterwards, rank each target statement's feasibility and impact by circling the appropriate number.

Target statement:	 	 	
•			

Impact: (low) 1 2 3 4 5 (high)	Feasibility: (low) 1 2 3 4 5 (high)
What impact will changing this behaviour have on the overall policy goal?	Does the project team/our organisation have the capability to intervene in the environment in which the behaviour takes place?
If we changed this behaviour by a small amount, would this be considered a success by all relevant stakeholders?	To what extent is the target group interested in changing this behaviour?
How many people do this behaviour, or does this behaviour affect?	What level of individual effort does changing the behaviour require?

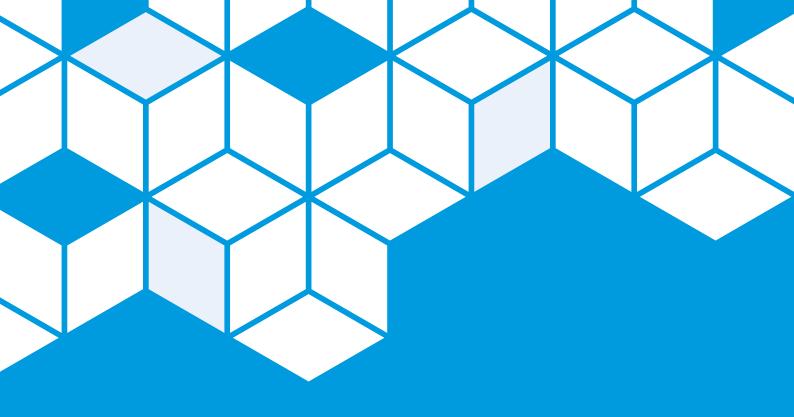
A worked example of this activity can be found on the next page.

Worksheet 1.B: Assess impact and feasibility – worked example

Conduct a high-level **impact** and **feasibility** assessment of each target statement. Use one copy of the sheet per statement. Use the prompts as a starting point to guide your consideration. However, you may need to come up with your own to fit the environment you are working in. Afterwards, rank each target statement's feasibility and impact by circling the appropriate number.

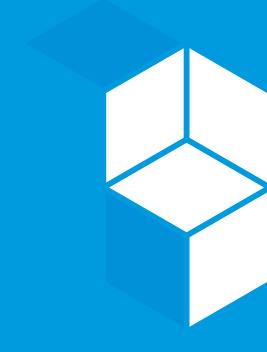
Target statement: Increase the number of patients from private clinics who complete their full course of antibiotics, when prescribed.

Impact: (low) 1 2 3 4 5 (high)	Feasibility: (low) 1 2 3 4 5 (high)
 What impact will changing this behaviour have on the overall policy goal? Reduction in risk of antimicrobial resistance in population. Less risk of infection returning and patient needing another round of treatment. 	Does the project team/our organisation have the capability to intervene in the environment in which the behaviour takes place? - Yes, the Ministry of Health can work with the public health agency/ the regulator to implement changes in private clinics, working alongside doctors.
If we changed this behaviour by a small amount, would this be considered a success by all relevant stakeholders? - Yes - given the large scale and the prevalence of antibiotic prescriptions, even a small change would see notable differences across communities and relieve burden on health staff.	To what extent is the target group interested in changing this behaviour? - Patients/ users: Less risk of repeat or ongoing illness.
How many people do this behaviour, or does this behaviour affect? Roughly 10% of residents in the relevant communities which are being served by the private clinics take antibiotics at least once a year; 5 m across the country.	What level of individual effort does changing the behaviour require? - Patients/ users: Assumption that individuals are taking their prescriptions then stopping when they feel better. Effort this requires is sustained motivation to keep doing a behaviour they have already been doing.



2. Explore

Understand the context



Worksheet 2.A: Plan and conduct Explore activities

How long? 2-3 hrs

In the table below, list research questions, that is, what you want to learn during the Explore phase. Then decide which type of Explore activities to conduct to answer the different questions.

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	•••••	 	

Research question:	Explore method (Pick all that apply)			
	Interview & Focus Group	Observation & Participation	Surveys	Data Analysis

A worked example of this activity can be found on the next page.

Worksheet 2.A: Plan and conduct Explore activities – worked example

In the table below, list research questions, that is, what you want to learn during the Explore phase. Then decide which type of Explore activities to conduct to answer the different questions.

Target behaviour: Tuberculosis patients take their medication as prescribed

Research question:	Explore method (Pick all that apply)			
	Interview & Focus Group	Observation & Participation	Surveys	Data Analysis
What are the barriers and facilitators to tuberculosis patients adhering to their medication?	x		X	
What information is given to tuberculosis patients, by doctors, when they are prescribed their medication?	x	x	x	x
How is tuberculosis medication taken? How regularly is it taken? What is the usual dosage? What are the side effects?	х		x	
What rate of tuberculosis patients do not adhere to their medication?			x	X

Worksheet 2.C: Use behavioural science frameworks to categorise barriers

How long? 2-3 hrs

Work through the list, which is based on the COM-B model, and discuss whether these are common barriers to your target behaviour. Then complete the table on the next page.

Capability	Opportunity	Motivation
Psychological/cognitive capability	Physical opportunity	Reflective motivation
People don't know how to perform the behaviour.	The environment in which the behaviour takes place makes it difficult or	The behaviour is not in line with how people view themselves.
People are not aware of the	impossible.	T
options available to them. People are unable to	People do not have the time and resources to perform	The behaviour will lead to (perceived) negative outcomes.
evaluate options and make the right decision.	the behaviour.	People do not want to
People lack the	The environment discourages the behaviour.	perform the behaviour.
interpersonal skills to carry out the behaviour.	Social opportunity	People do not have a clear goal.
People's attention is not captured nor sustained.	Role models and/or peers discourage the behaviour.	The behaviour does not help people achieve their goal.
People forget to perform the behaviour.	The behaviour is not the norm.	People do not believe they can perform the behaviour.
Physical capability		Automatic motivation
People do not have the physical skills to perform the		The behaviour is not a habit.
behaviour.		Nobody or nothing holds the individual accountable.
		People do not do the behaviour automatically.

Worksheet 2.C: Use behavioural science frameworks to categorise barriers

Add the barriers you identified in 2.B to one of the three categories below. Then add additional barriers based on the checklist on the previous page.

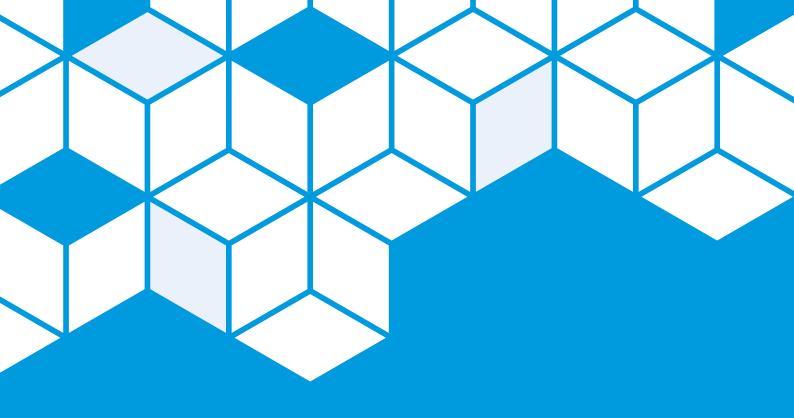
Target behaviour:	
Capability	
Opportunity	
Motivation	

Worksheet 2.C: Use behavioural science frameworks to categorise barriers – worked example

Add the barriers you identified in 2.B to one of the three categories below. Then add additional barriers based on the checklist on the previous page.

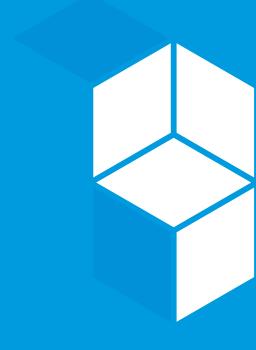
Target behaviour: Tuberculosis patients take their medication as prescribed

Capability Patients do not know how regularly to take their medication. Patients do not have access to sufficient amounts of medication. Patients forget to take their medication. Patients do not know how best to take their medication. Opportunity Patients are required to go to their local hospital to get more medication. Patients lack the time to take their medication. Patients do not prioritise taking their medication over other Patients are required to visit the doctor in between doses. Patients do not have friends or neighbours who are also undergoing tuberculosis treatment, or have never spoken to others who have undergone treatment. Patients are afraid of stigma if someone else sees them taking their medication (e.g., at work). Patients are concerned about side effects from medication. Patients who have failed to take their medication during a previous course do not believe they can follow through on a plan to take a full course. Patients do not want to take medication because it involves hassle. Taking medication is not a habit and is not automatic.



3. Solution

Design an intervention



Worksheet 3.A: EAST Checklist

Use the checklist below to gather ideas from the EAST framework or to refine existing interventions (such as government communication or processes) to ensure they are in line with key behavioural insights principles.

Easy

1. Keep messages simple and clear:

- Remove all non-essential information
- Avoid jargon & keep language simple
- Use simple rules of thumb

2. Enable people to take action without placing blame on the individual:

- Include a 'call-to-action' so that people know what to do
- Highlighting positive actions people can take

Attractive

3. Use clever incentives:

- Give people something that they value
- Create public recognition for performing the right behaviour
- Give people a sense of progress throughout the process

4. Capture attention:

- Use explicit, intense, emotional, or entertaining messages
- Create logos, slogans, and jingles
- Use images or infographics

5. Personalise content for the target audience:

Include people's names in

6. Be accurate and appear credible:

 Check content for accuracy against reliable sources

Social

7. Leverage social networks:

- Consider how to involve individuals that influence your primary audience's behavior
- Let people know if a majority of their peers are already engaging in the target behaviour to correct perceptions about social norms
- Use a trusted messenger

Timely

8. Reach people at strategic times:

- Prompt people just before they are meant to act
- Implement during key periods of transition

9. Get people to commit:

- Ask people to plan for their future actions
- Ask people to commit publicly or in their networks

Worksheet 3.B: Prioritise intervention ideas

How long? 1hr

Conduct a high-level **impact** and **feasibility** assessment of each intervention idea. Use one copy of the sheet per idea. Use the prompts as a starting point to guide your consideration. You may need to come up with your own (have a look at the list in the guide), to fit the environment you are working in and the specific idea. Afterwards, rank each intervention idea's feasibility and impact by circling the appropriate number.

Intervention Idea:

Impact: (low) 1 2 3 4 5 (high)	Feasibility: (low) 1 2 3 4 5 (high)
Is there evidence in the literature/from other studies/your context to suggest that the intervention is likely to be effective?	Is it practically possible to implement the intervention, both for a trial and at scale?
Does the intervention address one or several key barriers?	Do you have the budget to implement the intervention, both for a trial and at scale?
Are there any potential safety considerations or possible negative side-effects?	Do you/does your organisation have the authority and buy-in to implement the intervention, both for a trial and at scale?

Worksheet 3.B: Assess impact and feasibility

Conduct a high-level **impact** and **feasibility** assessment of each target statement. Use one copy of the sheet per statement. Use the prompts as a starting point to guide your consideration. However, you may need to come up with your own to fit the environment you are working in. Afterwards, rank each target statement's feasibility and impact by circling the appropriate number.

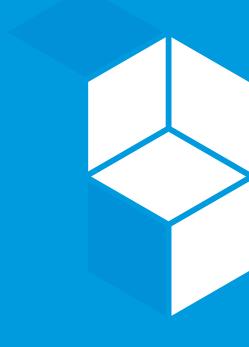
Intervention Idea: Personalise prescription boxes to each patient by writing specific symptoms that they have experienced on the box. E.g. 'taking this pill today will help with your headache'

Impact: (low) 1 2 3 4 5 (high)	Feasibility: (low) 1 2 3 4 5 (high)
Is there evidence in the literature/from other studies/your context to suggest that the intervention is likely to be effective? Personalisation invokes reciprocity and people respond better to stimulus that is personalised. Gilbert et al (2007) found that smokers who received personalised risk letters from their GPs attended smoking cessation sessions at a rate 8.4 percentage points higher than controls.	Is it practically possible to implement the intervention, both for a trial and at scale? - Can be tested through an RCT and implemented at scale if deemed to be effective. - Doctors would be required to spend an extra 2 minutes with patients to record specific symptoms and note this on medication packets ahead of prescribing the medication - might be reluctant if already very busy
Does the intervention address one or several key barriers? Mainly addresses the motivational barriers: patients are concerned about side effects, patients do not want to take the medication because it is considered as a hassle.	Do you have the budget to implement the intervention, both for a trial and at scale? Budget required is for communication with doctors; can come out of general budget for support to doctors
Are there any potential safety considerations or possible negative side-effects? If a patient's symptoms disappear they may be less inclined to proceed with taking medication.	Do you/does your organisation have the authority and buy-in to implement the intervention, both for a trial and at scale? We can work directly with hospital practices who would be the key agency involved when implementing this intervention.



4. Trial

Select outcome measures and population of interest



Worksheet 4.A: Select outcome measure and population of interest

How long? 1hr

Based on all the work you have done so far, discuss and define (1) the primary and secondary outcomes you will use to assess whether your intervention was successful; and (2) the population of interest and general sample. Note that the sample will be refined based on statistical power calculations.

Outcome type	What behaviour / outcome does it capture?	What data source will you use to measure it?	On which scale will it be measured?
Primary outcome			
Secondary outcome			
Population of interest - Whose behaviour do you want to change?			
Exclusion criteria - In this population, will anyone not be included in the intervention?			

A worked example of this activity can be found on the next page.

Worksheet 4.A: Select outcome measure and population of interest - worked example

Based on all the work you have done so far, discuss and define (1) the primary and secondary outcomes you will use to assess whether your intervention was successful; and (2) the population of interest and general sample. Note that the sample will be refined based on statistical power calculations.

This example relates to an intervention where tuberculosis patients are rewarded for returning empty pill packets to their doctors.

Outcome type	What behaviour /outcome does it capture?	What data source will you use to measure it?	On which scale will it be measured?
Primary outcome	Patients return their completed packets to doctors.	Data from local practices. Records of individual patients.	Binary - whether a given patient returns empty packet (=1) or not (=0)
Secondary outcome	Time (in weeks) it takes for patient to be declared cured	Data from local practices. Records of individual	Continuous - time in weeks

Population of interest - Whose behaviour do you want to change?	Patients who have already been prescribed tuberculosis medication.
Exclusion criteria - In this population, will anyone not be included in the intervention?	Patients who require injections

Activity 4.B: Plan implementation and capture risks

How long? 1-2hrs

Detail the implementation steps and agree on responsibilities and deadlines. Then brainstorm risks and mitigations.

Activity	Responsible	Deadline

Risk	Mitigation

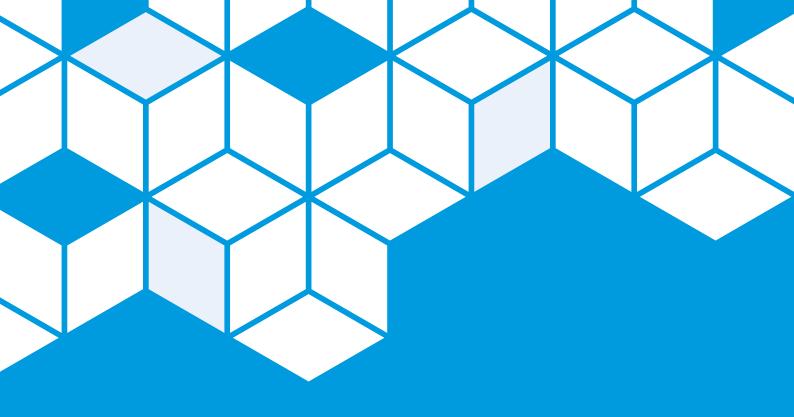
A worked example of this activity can be found on the next page.

Activity 4.B: Plan implementation and capture risks

Detail the implementation steps and agree on responsibilities and deadlines. Then brainstorm risks and mitigations. This example relates to an intervention aimed at reducing antimicrobial resistance by encouraging doctors to prescribe fewer antibiotics. The intervention informs doctors that they are prescribing more antibiotics when compared with similar practices.

Activity	Responsible	Deadline
Trial design, including work session to decide outcome	Quantitative research expert	1-28th November
Intervention design, user testing and production	Project lead + project delivery team	24th Jan - 28th February
Test of data collection system - obtaining data from practice	Quantitative research expert	3rd March - 5th March
Soft launch of intervention to test delivery mechanism	Project lead + project delivery team	3rd March - 5th March
Adjustments to data collection and intervention delivery system, based on findings from test run	Quantitative research expert, project lead + project delivery team	6th - 11th March
Intervention distribution	Project delivery team	12th March - 19th March
Data collection - obtaining data from practices	Quantitative research expert	19th March - 19th September
Analysis and write up	Quantitative research expert	12th - 23rd September

Risk	Mitigation
Delays in receiving data from GP practices	Allow sufficient time frames, on board GP practices prior to when data is needed, offer support with data extraction
Data shows lack of differences in prescription rates between GP practice	Consider phrasing intervention as 'you prescribe more antibiotics than your partner practice' rather than 'you prescribe XX% more'
Ethics concerns raised by partners	Submit a trial plan for internal ethics review prior to discussing with clients and partners



5. Scale

Plan next steps



Activity 5.B: Plan scale-up

How long? 2hrs

Use the SCALE questions below to plan a roll-out at a larger scale.

Activity	Responsible
Sponsorship	 Do you have sufficient demand/buy-in from senior leadership? If not, what can you do to increase it? Do you have sufficient demand/buy-in from individuals and organisations who would be involved in a roll-out? If not, what can you do to increase it?
Cost/benefit	 Will the cost for delivery at the desired scale increase disproportionately compared to the trial? If yes, will the impact still be worth the additional cost? Is the funding available for a roll-out at scale? (Consider the cost of the intervention itself, but also human resources, training, etc.)
Accountability	 Who will be responsible for rolling out the intervention at scale? Do they have the incentives to do so? Is there a risk that they might deviate from an implementation plan in a way that decreases the positive impact or might even lead to a negative impact? How will they be held accountable? Are there any systems in place for monitoring?
Logistics	 Can the implementation mechanism used to deliver the intervention during the trial be used at scale? If not, what adjustments have to be made, and is there a risk that this might decrease the impact? Do you need to run additional stress tests to find out whether the system can deliver the intervention at scale and as intended? Do you need to train/hire additional people?
Evidence	 Do you need to conduct additional research/evaluations to gain more evidence to make a decision on the roll out?

