Experiment!
TAFTIE Task Force
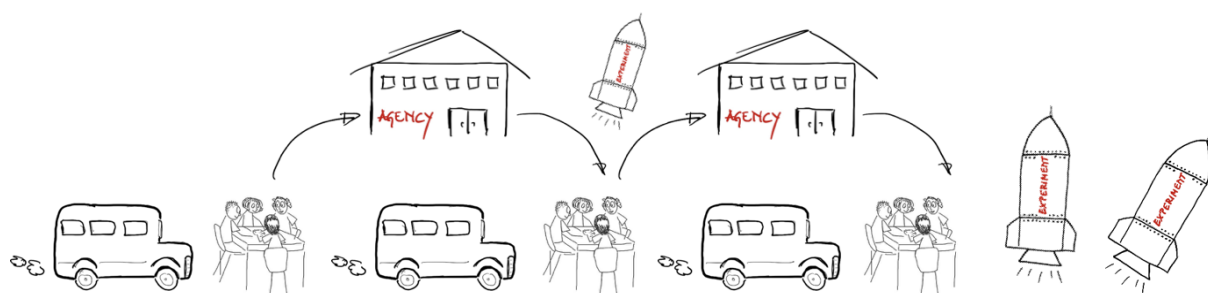
Narrative Report

February 2022

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Foreword

Taftie members are shaping the future of innovation ecosystems and doing so need to constantly improve the effectiveness and the efficiency of public innovation support. Taftie´s vision is to support its members to learn from each other, and to develop new ways of supporting their innovation systems. An exciting newcomer in the innovators toolbox is the well known scientific method of experimentation.

In the field of RTDI policy experimentation is surprisingly little used, much less than one might expect. Why is this the case? Are public agencies different (operating with public money, being governed by public authorities, being subject to strict legal regulations and control) in a way that hinders experimental behaviour? Or vice versa, would good experiments be a necessary prerequisite to lead to better interventions?

Inspired by showcases and opportunities presented by the Nesta's Innovation Growth Lab (IGL) to the Taftie network, FFG and IGL tested with a Taftie Academy workshop on experimentation how other agencies respond to this topic. Based on the huge interest the participating agencies showed in learning more and starting to experiment, the idea for the Taftie Task Force Experiment! was developed, approved by the Taftie Board and started in 2019, supported by the IGL team.

The Task Force consisted of 20 Taftie member agencies and International Partners of Taftie and was chaired by FFG. We tried to explore the wide and unfamiliar field – from identifying supporting environments as well as barriers, from developing lots of potential ideas for experiments to learning the requirements of really planning and carrying out a trial or a pilot. In this way, this Taftie Task Force was different from previous ones – it was an experiment in itself, not drawing from already existing experience and expertise but aiming at generating it by developing experiments together, supporting each other as peers and learning by doing.

However, after the promising first two workshops the pandemic hit and our Task Force had to be adapted and restructured. Participating agencies that had reserved resources for developing and carrying out experiments were confronted with new challenges and suddenly had to shift their priorities away from the experiments stimulated by the Task Force. But even though all agencies experienced this shift in priorities and also in terms of resources available, the Task Force still was able to provide valuable insights and to develop several trials and pilots that are now ongoing or will be implemented in the near future. This would not have been possible without the excellent support from IGL and the enthusiasm and flexibility of the whole Task Force group.

The results of the Task Force are manifold and go beyond the concrete (ideas and plans for) experiments. What became very clear was that the opportunities to support evidence based decisions by experimentation do not only depend on the willingness, resources and capabilities of the agencies but also on their specific environment and the governance structures they are embedded in.

This report documents the experimental journey the Task Force participants took. Readers will find different case studies on how to become experimental and concrete experiments. In

addition, the Task Force established a knowledge repository for experimentation, which is accessible via the Taftie website. We hope this will provide a valuable and growing resource for the whole network.

We would like to express our sincere thanks to the IGL team for their tireless and productive support during the course of this task force. Our thanks also go out to all our colleagues in Taftie agencies who, despite adverse circumstances, were committed till the end and helped make the Task Force a success. And last but not least, we would like to extend our gratitude to the Taftie network for their financial support, it would not have been possible to carry out the task force without it.

Sabine Mayer
Harald Hochreiter
(Task Force Chair)

If you want to follow up or learn more please contact:
Sabine.Mayer@ffg.at, Harald.Hochreiter@ffg.at
innovationgrowthlab@nesta.org.uk

1.   Introduction

At the end of 2018, individuals from nine innovation agencies gathered for a TAFTIE Academy Networking Workshop, hosted by Austria's Research Promotion Agency (FFG) and facilitated by Nesta's Innovation Growth Lab (IGL).[1] The theme of the session was 'experimentation', with participants being introduced to ways in which experimental methods can be applied to develop and implement more evidence-led innovation policies, and encouraged to generate ideas for experiments they could run in their own organisational or national context.

The enthusiasm and interest generated by this session led to the decision to establish a TAFTIE Task Force, to give innovation agencies across the network the opportunity to learn more about the principles and practices of policy experimentation, and, if possible, to develop their own experiments. TAFTIE's 'Experiment!' Task Force ran between 2019-2021, chaired by FFG, in partnership with the Innovation Growth Lab. The Task Force launched in Luxembourg in October 2019, with a session attended by 28 representatives from 17 innovation agencies, including a number of TAFTIE's international partner agencies. Box 1 below shows a full list of agencies that participated in the Task Force over its duration.

Box 1: Participating agencies in the Experiment! Task Force (Taftie members and International Partners)

ANI (Portugal)	NEDO (Japan, International Partner)
Business Finland	Netherlands Enterprise Agency
CDTI (Spain)	NRC (Canada, International Partner)
ENEA (Italy)	PARP (Poland)
FFG (Austria)	PtJ (Germany)
FINEP (Brazil, International Parter)	SIEA (Slovakia)
HAMAG BICRO (Croatia)	TACR (Czech Republic)
Innovate UK	TTGV (Turkey)
Innovation Norway	VDI/VDE-IT (Germany)
Luxinnovation (Luxembourg)	VLAIO (Belgium)

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[1] The Innovation Growth Lab is a global partnership between governments, researchers and foundations, hosted by Nesta. IGL works to increase the impact of innovation and growth policy by ensuring that new ideas and robust evidence inform policy making. Over the past seven years, IGL has advised multiple government departments and innovation agencies on incorporating experimentation into their programmes and on using evidence to inform policy decisions.

The Task Force aimed at enabling participants to acquire knowledge and gain experience on experimental approaches through "learning-by-doing". The term "experimental approaches" covers a range of different methods, from fully fledged randomised controlled trials (RCTs) to more pragmatic and simple, yet systematic and structured piloting, applied in a real life environment.

The Task Force was designed to promote mutual exchange and action learning. It was planned to allow for flexibility in scope and time, as agencies started from different positions and had to follow different schedules with their experiments and pilots - some being able to contribute with their experience from past or ongoing pilots, others being in the ideation and starting phase. It was expected that other agencies would be observers - not carrying out any experiments or pilots themselves, but joining to learn more about experimental approaches. In many cases, experimentation needs to be coordinated with the respective principals, which also called for flexibility in the Task Force.

The pilots or experiments developed and carried out by the participating agencies were intended to serve as case studies and benefit from mutual learning and support. However, responsibility for their implementation and financing lay with each individual agency.

The Task Force was originally structured as a series of multi-day workshops, where participating agencies would meet together to develop their understanding of the theory and practice of experimentation, design their own experiments, and then proceed towards developing and implementing them with the support of their Task Force peers and IGL. The original timeline is included in Figure 1 below.

Figure 1: Original Task Force timeline (2019-2021)

INDIVIDUAL EXPERIMENTS MAY TAKE LONGER TO COMPLETE!!

As COVID-19 started to sweep across Europe in the early months of 2020, plans had to pivot to accommodate both the changing priorities and resources of TAFTIE agencies as well as the inability to meet in person.

Consequently, the Task Force was redesigned to include three main components:

1. **Open discussion sessions**: A series of online workshops open to individuals from all TAFTIE member agencies and International Partners, designed to provide general information and tools in relation to different aspects of experimentation. Four topics were covered in these sessions:
   ○ Making the case for experimentation
   ○ The value of experimentation for innovation policymakers
   ○ Developing and using rapid fire trials to optimise design and delivery
   ○ Planning an experiment- key decisions, tips and developing a trial protocol

2. **Deep dive sessions:** Online workshops with an in-depth focus on the experience of individual Task Force agencies. Each session focused on problem solving, helping the agency in question to explore the specific challenges they were facing in developing their own experiment, while showing others the kinds of problems that could be used as opportunities to experiment. FFG, Innovation Norway, TTGV and RVO each ran a deep dive session during the Task Force

3. **Tailored support for Task Force members:** Alongside the group activities, the IGL team provided personalised support for Task Force agencies that were working towards developing or running an experiment. The aim of this support was to try and get each agency to the point of running an experiment, or having a roadmap for doing so and ideas for experiments or pilots they could run in the future.

Figure 2: Revised Task Force timeline (2020-21)

This report

This report shares our learnings from running the Experiment! Task Force. It is designed to sit alongside a 'knowledge repository', which will give TAFTIE agencies practical information and tools to support their efforts to design, implement and evaluate experiments. The knowledge repository contains slides and recordings from all workshops, alongside a summary of the main content and a collated set of examples and ideas for innovation policy experiments that were discussed during the course of the Task Force.

Section 2 provides an overview of what policy experimentation looks like in practice, as well as the key factors that enable innovation agencies to experiment. This is illustrated by examples and stories from Task Force agencies.

Section 3 shares ideas about the kinds of policy experiments that can be run, drawn from the experience of Task Force agencies as well as other organisations that IGL has supported.

Section 4 highlights some of the lessons learned during the Task Force about taking an experimental approach to developing and implementing innovation policies.

Section 5 offers some final reflections on the process of running the Task Force, as well as suggestions for how TAFTIE can further support the development of a community of experimenters.

Section 6 contains links to the TAFTIE knowledge repository - recordings of Task Force sessions, slide packs and other resources to support the experimentation journeys of innovation agencies.[2]

An Appendix contains case studies of five participating agencies in the Experiment! Task Force, with more details of their journey and what they learned.

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[2] These resources are currently linked to in Section 6 of this report. In the future they will be uploaded to the TAFTIE website.

2.   Becoming an experimental agency

In the context of this Task Force, an experiment is more than simply 'trying something new'. Instead, the focus is on intentional learning. A policy experiment has a clearly structured approach to learning - defined before the experiment starts rather than afterwards - and it generates new information, evidence or data. A rigorous policy experiment will have a theory of change, systems and processes in place to capture learning, and a clear timeframe with limits or checkpoints where results will be assessed and decisions made about whether it should be adjusted, scaled up or discontinued.

Policy experiments can be used in different contexts and with different objectives. The aim of the experiment shapes the kind of intervention that is used, as Figure 3 shows.

Figure 3: Different motivations for experimenting
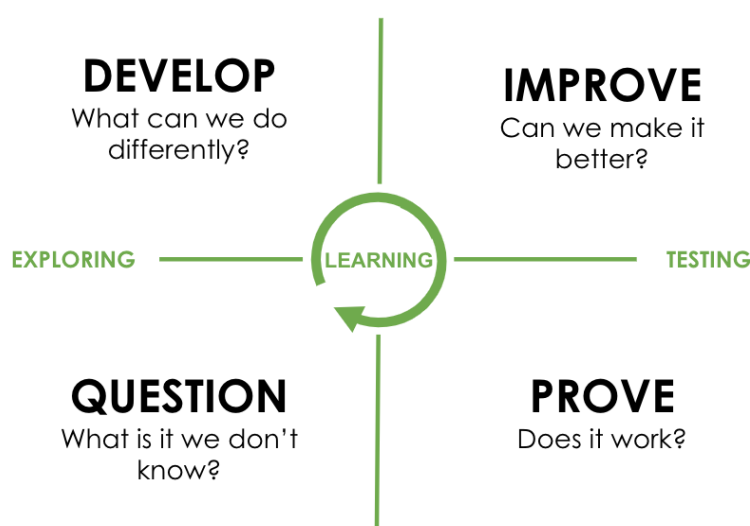
Task Force participants were introduced to the idea of using pilot studies and trials. Pilot studies are focused on exploration and discovery (understanding how the world works, the scope for change and the feasibility of delivering a new intervention).

Trials are more tightly framed around evaluation (finding out what works). These can range from small, rapid fire experiments that provide the basis for iterative improvements to an intervention through to full randomised controlled trials (RCTs) or economic impact evaluations. Key terms are defined in Box 2 below.

Box 2: Key terms

> **Economic impact evaluation:** These are research projects undertaken to evaluate whether a policy intervention has achieved its overall objectives. The focus is often on estimating economic outcomes such as employment or productivity, that are created from impacts on levels of innovation activity, business capabilities or investment.
>
> **Pilots:** Pilots are often the first stage test of an intervention and are undertaken when it is believed that the intervention can be delivered effectively but when there is still a need to see how it works in reality. A full or partial version of the intervention will be tested with a small sample to determine the feasibility of delivering the intervention and to test assumptions about the theory of change. A pilot can be used as a test for hypothesis and provide a basis for decisions on whether to proceed with the proposed intervention. However, a pilot will typically lack the statistical power to be able to inform conclusions about causal inference. A pilot study should also be considered when preparing a full RCT, with the added purpose of testing trial design.
>
> **Randomised controlled trial (RCT)**: An experiment carried out on two or more groups where participants are randomly assigned to receive an intervention or not. Participants are randomly assigned to either an intervention group (also called a 'treatment' group) who are given the intervention, or a control group who are not. The introduction of a randomly assigned control group enables you to compare the effectiveness of the new intervention against what would have happened if you had changed nothing.
>
> **Rapid fire trials:** An RCT that will provide quick results often by focusing only on the most immediate results from the tested interventions. This is usually a low-cost modification or small tweak to an existing programme to provide quick answers to operational or delivery questions. Intention is to keep costs low by testing small tweaks and using existing data sources to measure outcomes.
>
> **Theory of change:** A theory of change explains how activities are understood to produce a series of results that contribute to achieving the final intended impacts. It can be developed for any level of intervention – an event, a project, a programme, a policy, a strategy or an organisation. A logic model is often developed from a theory of change, setting out the roadmap by which policy objectives will be achieved, connecting inputs to activities, outputs and outcomes.
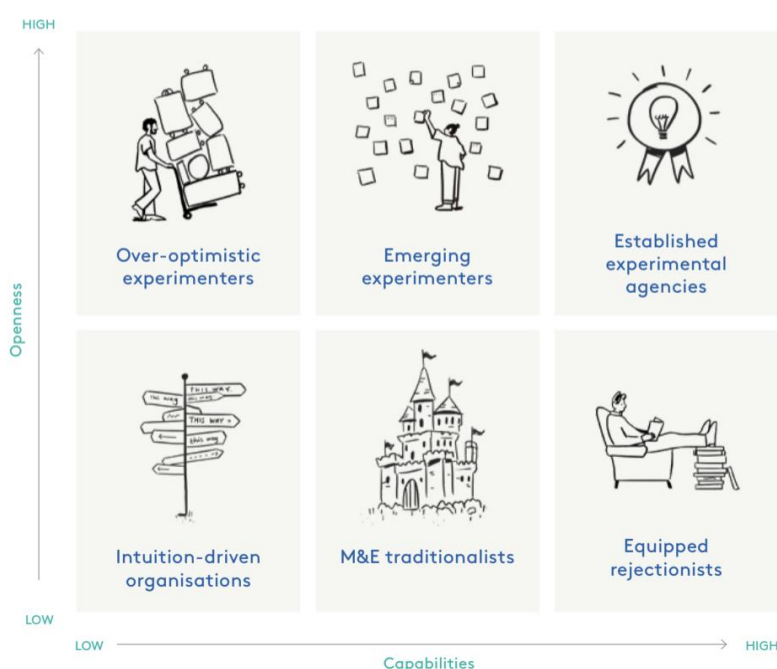
Innovation agencies face a complex and quickly changing policy environment. In addition to funding research and supporting the development of new or improved products, services or systems, they are also required to anticipate the needs of emerging industries, and determine how best to support them. For many years, innovation agencies have been aware that they need to improve and accelerate their systems of learning to be able to deliver on their goals. Experimental approaches have the ability to accelerate learning by systematically testing assumptions and identifying knowledge gaps. Becoming an experimental agency is in many ways about embracing unknowns and fueling a culture of learning, to manage risk through evidence-based decision making.

Building openness and capabilities to experiment

Two factors significantly influence [an agency's readiness to experiment and ultimately run a randomised controlled trial](#) (RCT): openness to experimentation and capabilities to experiment. Openness refers to an agency's willingness to learn, being open about uncertainty and using experimental methods as a form of policy design and evaluation. While all the agencies who formed the TAFTIE Experiment! Task Force opted into learning more about experimentation, aspiring outcomes for the Task Force members differed depending on individual contexts and how much autonomy each Task Force participant had.

Capabilities to experiment refer to specific skills and resources that agencies need to successfully run an experiment. The varying degrees of access to adequate data infrastructures, research and evaluation capabilities and RCT expertise, beyond the support provided within the Task Force, affected each agency's ability to meet their individual goals, especially in the context of new demands and constraints created by the global pandemic. Figure 4 below shows an emerging categorisation of different types of experimental agency, mapping their openness and their capabilities.

**Figure 4**: Categories of innovation agencies according to their experimentation maturity[3]

Within the Task Force, the experimentation journey of individual agencies took different forms depending on the agency's specific characteristics and operating model, what the role the Task Force lead had within the wider organisation and innovation ecosystem, what existing capabilities were, and how agile and resilient their experiment ideas were in the face of COVID-19 and competing priorities.

The process of running an experiment

The virtuous experimentation spiral is a structured guide used to describe the experimentation process. It begins with successfully diagnosing the problem and setting policy objectives which in turn reveal interventions that can be designed and tested using randomized controlled trials. Figure 5 below shows different stages of this process.

Figure 5 : The virtuous spiral of experimentation[4]
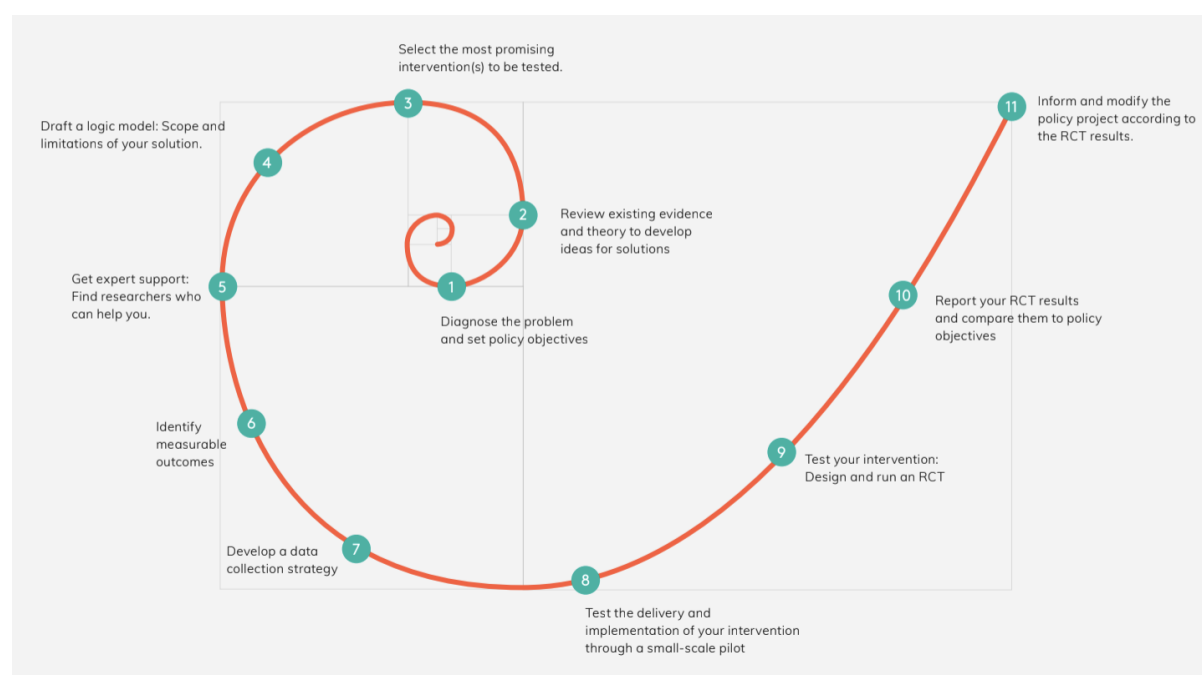
Despite a seemingly straight-forward and linear process, becoming experimental is often a journey with lots of twists and turns, inhibited by a number of competing factors. Running an RCT in particular can be challenging as agencies need both the intervention and evaluation to work in tandem. For Task Force leads considering experiments for the first time, moving past the first stages of the spiral of experimentation was more difficult than anticipated, often due to the lack of understanding of the benefits of taking an experimental approach within their wider organisations.

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[4] Graph reproduced from *'Boosting experimental innovation policy in Europe'*. See notes and disclaimer in footnote 3 above.

At the start of the TAFTIE Experiment! Task Force, Task Force agencies mapped the forces for and against the culture change needed to become experimental. From pressure to prove value for money or to deliver better services for customers to a lack of internal experimental expertise and cultures that feared failure, there were plenty of reasons for and against, illustrated by Figure 6 below. During the Task Force we looked at how agencies could make the case for experimentation, by utilising the forces for experimentation and navigating the barriers against.

Figure 6: Forces for and against experimentation

Forces FOR

- **Customers** - eg businesses expecting Innovation Agencies to be providing new/better solutions

- **Organisations** - eg Finance Ministry needing proof of value for money or find cost savings

- **New Challenges** - Change in role of agencies creating demand for new solutions

- **Culture** - People within agencies want to try new ideas

- **Keep Up -** Other agencies or policy areas are becoming experimental and have better evidence

Forces AGAINST

- **Resource Constraint** - costs and capacity restrictions

- **Lack of Expertise** - Pilots/RCTs can be complex to design and evaluate

- **Inertia** - Reluctance in organisations and customers to try something new

- **Fear of Failure** - Reluctance to take risks or make negative findings public

- **Legislation** - Difficulty to randomise support or vary programme design

- **Internal Structure** - eg distance between analysis and policy delivery

In addition to contextual forces, becoming experimental requires the adoption of skills, attitudes and behaviours which are not always easy to embed institutionally. Agencies were therefore always likely to learn at different paces and face a varying set of challenges and opportunities to experiment depending on their individual contexts.

Becoming experimental should therefore be viewed as a continued practice that builds over time through the act of *doing,* rather than a process that ticks all the experimentation stages off one-by-one.

The short case studies of a number of the Experiment! Task Force members below illustrate a variety of routes to becoming experimental. Further details can be found in an Appendix to this report.

Case study 1: Experimental enthusiasts waiting for the tides to turn

VDI/VDE operates within an ecosystem where its mandated programs are awarded and overseen by larger government ministries. Given restrictions to how programs can be delivered, as defined by the mandating Ministry, running a full experiment was never going to be a feasible option. Within the TAFTIE Experiment! Task Force, this lack of autonomy to apply the use of experimentation to policy design and evaluation kept VDI/VDE in the first stages of the experimentation spiral. Nevertheless, this first case study offers an opportunity to delve into other useful lessons and skills agencies in a similar position can gain from structured peer-learning groups, where the experiences of others can put them in an advantageous position for the future.

Case study 2: Pushing the dial to champion experimentation

RVO's openness to experiment was palpable from the start. Beyond the agency's leads within the Task Force, the wider organisation were also keen to embrace experimental methods and get stuck into designing and running trials to improve their programmes and ways of working. While this desire to embrace uncertainty and try something new pushed RVO to learn quickly, running an experiment proved less straightforward as the capabilities required took more time to build. This case study illustrates the twists and turns of becoming experimental and highlights why learning will often not follow a linear process. Ultimately, perseverance from RVO's side proved to be the best remedy for tackling the opposing forces that blocked them from running an experiment during the timeframe of this Task Force.

Case study 3: How keen experimenters first find their feet

Running a full randomised controlled trial requires careful planning and conditions that will allow the intervention and evaluation to work alongside each other. For first time experimenters, designing a full RCT may often require testing assumptions using other experimental methods first. Piloting is an efficient way to test whether a larger RCT is required and in the case of TTGV, running a pilot saved the agency from investing resources in an intervention that would not have worked despite appearing promising at first. This case study is a great example of how experimentation - structured learning to inform decision making - can take shape in many different ways and why not going ahead with a programme based on incorrect assumptions is a huge success!

Case study 4: It takes a village to become experimental

Innovation Norway came into the Task Force having already run a few experiments in the past through the data analytics team but still struggled to move past the first stages of the experimentation spiral. Despite being open to experimentation and having the capabilities both in house and externally through partnership with the Innovation Growth Lab, becoming experimental could not be wholly led by a few. This case study provides a great example of why experimentation needs to be diffused throughout an organisation to really take shape. When cross collaboration is harnessed, there are more opportunities to pick out the optimal policies and interventions that can be enhanced through experimental methods.

Case study 5: Where do experienced experimenters come from?

This final case study maps key lessons from FFG's journey to becoming experimental. As Task Force leads and experienced experimenters one could easily assume that experimentation came easy and was embraced with open arms from the start. Instead FFG's entry to running experiments started small and required constant negotiation to become what it is today. Despite having run a number of experiments, getting an RCT off the ground is still a challenge and FFG have had to remain creative and adaptable to grow the agency's experimental openness and deepen capabilities beyond the hands of a few.

3. Ideas for experiments

Over the course of the Experiment! Task Force, participating agencies identified a range of policy challenges that were ripe for taking an experimental approach. The ideas brought forward for development within the Task Force can be broadly categorised in three groups.

- **Optimising the delivery of innovation support** - for example, is it possible to reduce the burden of funding selection processes by reducing the information required from applicants without affecting the quality of proposals.
- **New approaches to build the capabilities of innovators** - for example, the best way of providing online training to SMEs who are seeking to innovate and grow their business.
- **Simple tweaks to boost engagement with programmes and policies** - for example, is it possible to encourage greater interest in available support by varying the design and content of promotional newsletters.

Below, we describe each of these categories of ideas in more detail, illustrated by specific examples from the Task Force agencies.

3.1 Optimising the delivery of innovation support

Making the process for allocating funding more efficient, effective and equitable

During the Task Force, we looked at the 'customer journey' for applicants and assessors and the range of questions across this that agencies could investigate using experiments, testing different ways of making the processes more efficient, effective and equitable.

**Figure 7**: Illustrative customer journey for an innovation funding call
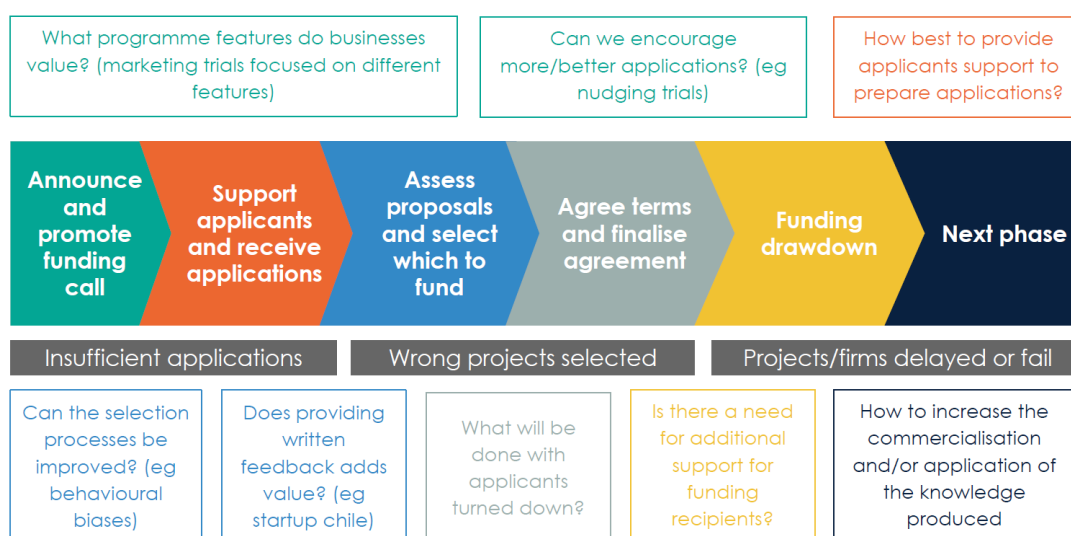
Reducing the burden of the application process

One common goal for agencies was to reduce the burden of the application process in the system, i.e. for the applicants, the assessors/reviewers and the agency without lowering the quality of projects selected. We considered how their existing data could be used to spot potential challenges and opportunities, such as:

- Key criteria - are there assessment scores for specific aspects of the proposal that are powerful predictors of whether the overall proposal will be accepted or rejected, alternatively, do scores for some sections make little difference.
- Element of chance from assessor choice - The choice of assessors usually incorporates some elements of chance, such as availability for a specific date. Assessors will often reach different conclusions about a proposal, this lack of consistency in scores introduces an element of chance into decisions. Taking inspiration from research by [Graves et al (2011)](#), agencies were encouraged to try and classify proposals into those that a) would be funded by all assessors b) would have been selected by some but not all and c) would never have been selected.

Figure 8: How applicantations may appear if segmented by decisions of all assessors
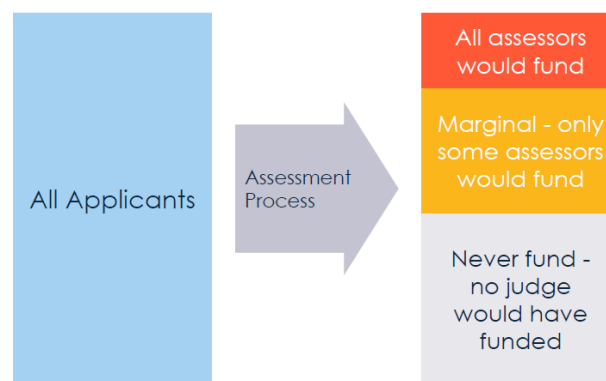

FFG presented the progress they had made from applying an experimental approach as part of their efforts to improve funding processes. Informed by data analysis and wider feedback, FFG had identified two questions to investigate through experimental pilots:

- **Pilot 1**: Predict a rejection based on a sketch - Can they reduce the time needed to prepare a full proposal by identifying proposals with low funding probability before applicants submit a full proposal?
- **Pilot 2**: Predict a rejection based on a sketch - Can they reduce the time needed to prepare a proposal by eliminating chapters from the proposal and predict the outcome by scores on a selection of chapters?

For the first pilot, FFG modified an existing format: applicants can always talk to FFG about their project idea and inquire about programme logic and administrative issues before they start working on the proposal. For this experiment FFG asked the applicant to submit a short, 1-3 page document ("sketch") outlining their idea before they met with FFG.
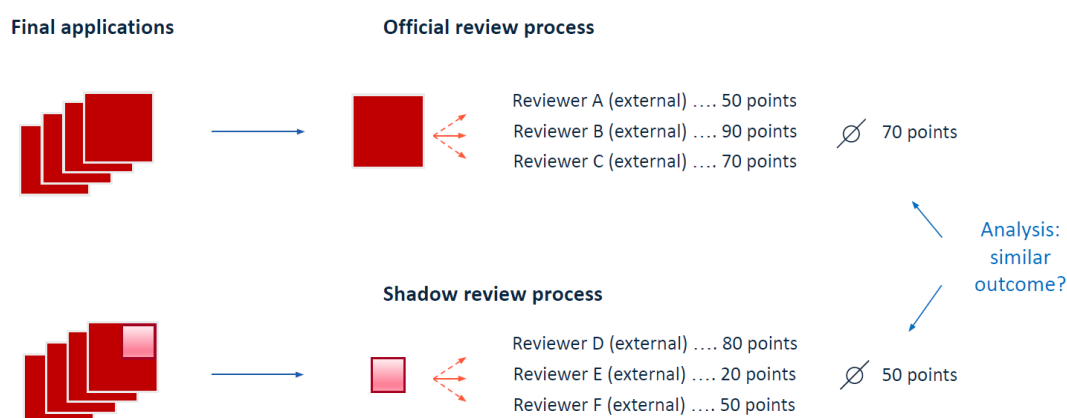
Figure 9: Design of FFG's first pilot
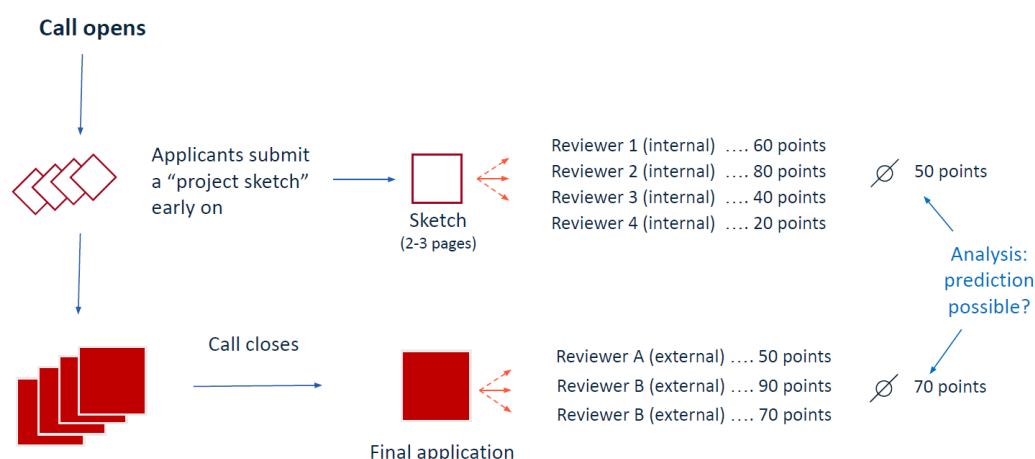
Within this small pilot, they found very little overlap in scores for the sketches and those in the final assessment (it would have taken a larger sample to reach a firm conclusion about the apparent lack of correlation). There appeared to be two potential explanations. Firstly, the feedback provided after the sketch was reviewed may have led applicants to improve proposals. Alternatively, it may be that the difference could be attributed to the change in assessors at each stage.

In the second pilot assessors in the formal funding process would review full proposals as usual, whilst a second group of assessors, brought in specifically for this task, would evaluate only a few key chapters. This pilot was run as a "shadow experiment" where the alternative assessment process is undertaken outside (i.e. hidden in the shadow of) the formal process as only the scores from those with full proposals would be used to inform funding decisions.

Figure 10: Design of FFG's second pilot

Final applications

Official review process

Reviewer A (external) …. 50 points
Reviewer B (external) …. 90 points   Ø   70 points
Reviewer C (external) …. 70 points

Analysis:
similar
outcome?

Shadow review process

Reviewer D (external) …. 80 points
Reviewer E (external) …. 20 points   Ø   50 points
Reviewer F (external) …. 50 points

The results showed that the scores of those who only saw a few chapters showed little correlation with either the total scores or chapter scores given by those who had read the full proposal. The two most likely explanations are that once again who scores may matter more and/or that when scoring whole proposals the score for one chapter may be influenced by what was presented in other sections - a so-called "halo effect".

The results from these pilots have provided a basis to inform decisions on the scope to reduce the burden of the application process using a short sketch or condensing applications to a few key sections. With the findings indicating that whilst they could reduce the burden for applicants there could be substantial effects on who gets funded.

FFG has since implemented further experiments and data analysis to investigate the explanations for the outcomes from the pilots and alternative approaches. Starting with a small pilot to determine the likely scale of the "halo effect" whereby assessors first receive a shortened version of the proposals before the same assessor gets access to the full version. The purpose of this is to determine whether they would then change their previous chapter scores. Preliminary results pointed to the presence of a "halo effect" that is worth investigating further and would benefit from similar investigation by other agencies, as would all of the ideas above.

Funding selection - Improving outcomes through the power of feedback

Another simple, and potentially easy-to-implement experiment is in how agencies provide applicants with feedback generated in the selection process. Here inspiration came from Rodrigo Wagner's trial with the 'Startup Chile' programme - the programme was already collecting assessments by evaluators, but they were not shared with successful applicants. The trial found that simply sending these assessments to applicants increased future business performance by a significant amount.

A number of agencies considered their own approach for if and how feedback is provided. FFG shared details of their experiment (FEEDSFIRST funding through Innosup-06-2018) looking at how they might optimise feedback provision by testing the impact of relative ranking scores on the adoption of feedback and project outcomes.

An internal analysis of proposals in FFGs largest programme found that the proposals of first-time applicants, SMEs and Start-ups showed room for improvement on both the technical concept as well as the business plan. There are many ways to provide additional support to this group of applicants but perhaps feedback provides a relatively cheap yet effective solution.

FFG therefore designed an automatically generated feedback using data from the evaluation process outlining strengths and areas of improvement of the projects. Rather than excluding some projects from receiving feedback they instead decided to test whether behavioural insights could be applied to additional benefit? More specifically, would telling applicants how they compare with their peers provide motivation to improve or have a negative effect through complacency and despondency?

Their RCT design is a two-arm trial testing the impact of a relative ranking score in addition to feedback on project application. The intervention, which only the treatment group receives, consists of the firm's relative ranking score for each of the four categories in the feedback - a relative ranking for the respective firm's performance in a specific category among all the firms in their sample. The control group receives the same feedback sheet, only absolute scores and without the relative ranking. The main outcomes being measured are the impact of the intervention on success of project implementation which is evaluated by the project evaluators at project end. The RCT is ongoing and the results will be available in 2022.

Innovation networks - Getting the most out of communities

TTGV undertook two pilots to investigate how they might optimise the delivery of their Xnovate programme - a community of practice on innovation, to share best practices, disseminate innovation tools and techniques and support the development of innovation professionals.

Their first pilot tested an idea for reducing the time it took to produce and approve reports from community workshops. The experiment would compare the standard approach of reports being prepared by TTGV staff members with one where production of the reports would be the shared responsibility of workshop attendees. The expectation was that the pilot would be delivered for several months so they could compare the speed of reporting from a range of workshops[5]. However, TTGV learnt much more quickly from the pilot that transferring responsibility for the report writing to community members was not working.

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[5] Whilst the approach was to be randomly allocated the pilot was considered a full RCT as would lack the sample size necessary to provide robust conclusions about the causal impact of the change in approach.

The second experimental pilot was developed to test a hypothesis that if TTGV did not provide new Xnovate community members with introductory support (known as Network 101) it would not affect their involvement compared to those who received this training. Given constraints, TTGV did not apply a full RCT methodology[6] for this pilot and will instead compare outcomes for new community members drawn from two separate populations; one receiving Network 101 and the other not. This second pilot project is underway with results expected in 2022. Should there be no evidence of difference between the two groups then TTGV may seek to confirm through a full RCT (as illustrated below) or decide the evidence is already sufficient for a decision to be made.

Figure 11: Illustration of TTGV's pilots if delivered as full RCTs

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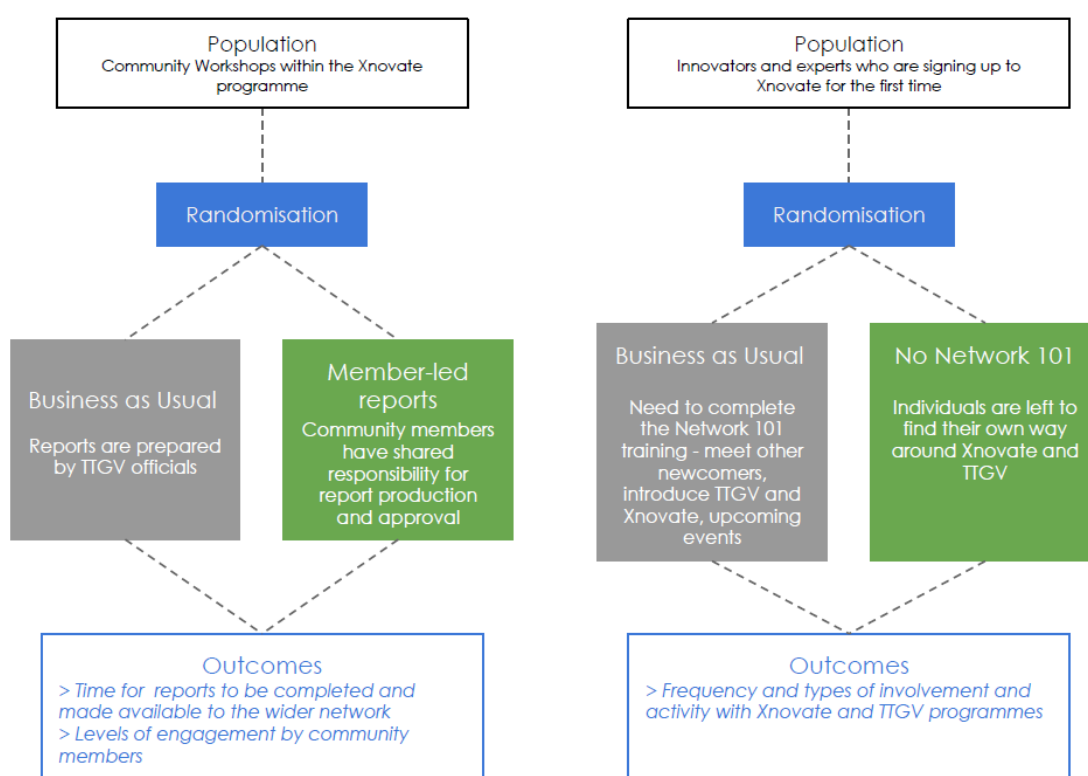
[6] However, the illustration of the experiment is shown with the two groups being created through random allocation as would be required if this idea was to be tested through a full RCT.

**Optimising the delivery of innovation support - other ideas**

- *Providing 1-1 support for (some) applicants to see if it improves their applications.*
- *Setting up a pre-qualification stage to check eligibility - this would add cost and delay funding but currently up to 70% of applicants are found to be ineligible*
- *How strictly to set and monitor technical conditions for funding? When weaknesses in proposals are identified, should the agency provide funding only if the business agrees to conditions for addressing them or would it be sufficient to only provide feedback and leave businesses to develop their own solutions?*
- *What is the feasibility of running a lighter evaluation stage, accepting more risky proposals and managing these by closer follow-up at project development according to specific goals and criteria?*

3.2   New approaches to build the capabilities of innovators

Providing additional support for innovators - mentoring

Innovation Norway shared with the Task Force their ongoing experiment looking at the effects of a new service they introduced to provide mentoring support to SMEs who have already received innovation funding. Does mentoring affect firm performance and firm survival? Does it matter what type of state aid a firm is granted; mentoring versus the financial equivalent of the service?

Figure 12: Design of Innovation Norway's trial of mentoring support for SME innovators
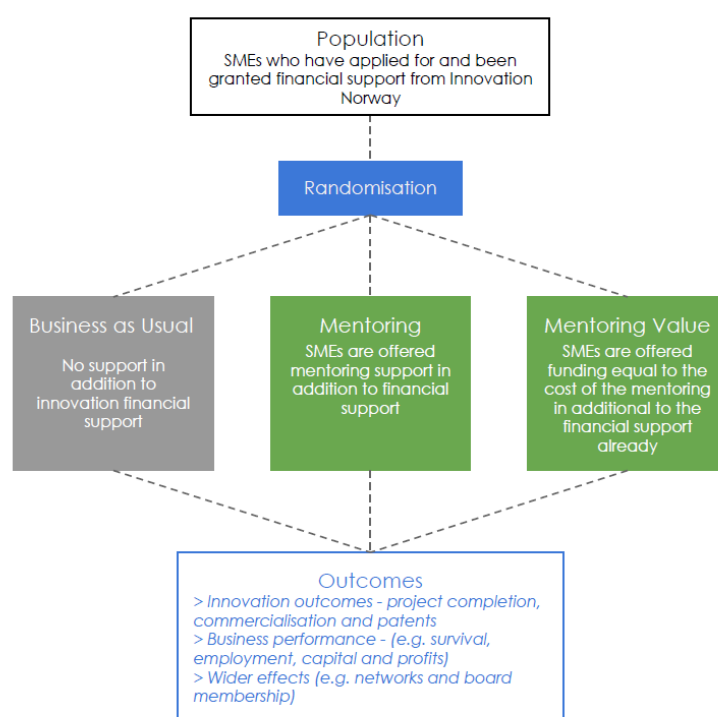
Participating SMEs are randomly allocated to receive either no additional support, mentoring, or the financial equivalent of the cost of mentoring. A range of outcomes measures are being tracked through surveys and data matching, including effects on innovation (e.g. time more product commercialised); business performance (e.g. employment, capital and profits) and wider effects (e.g. networks and board membership).

Providing additional support for innovators - online learning platforms

During the Task Force, Innovation Norway outlined a new online learning programme they have introduced to support SME innovators and exports, the "Competence Centre". As a Task Force, we looked at how rapid-fire experiments could help them to optimise the delivery of their new online offer and to deal with potential challenges to its success:

1. Increasing the numbers signing up - growing numbers but still below targets
2. Encouraging learners to make use of the full range of support and continue to other courses after completing the most popular
3. Getting learners to complete training - a significant minority of those who start a learning package do not complete it.

We discussed the potential testing "nudges"[7] through rapid-fire trials - identifying the four stages of progression where there were potential contact points with learners, such as newsletters and the potential to include reminders and notifications once people are on the platform.

Figure 13: Illustration of a "learner's journey" to help identify progression and contact points
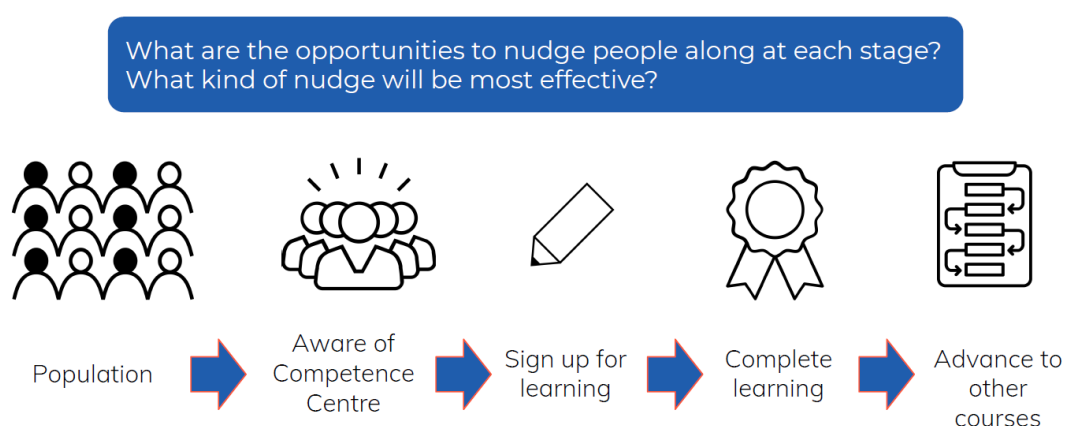
This led to the development of several outlines being drawn up for experiments. For example, one that would test the effects of sending reminders to those who haven't completed training and whether this is different if case studies are used to highlight the benefits experienced by other users.

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[7] To generate ideas for nudges agencies were shown toolkits such as the EAST framework developed by the Behavioural Insights Team.

Figure 14: Rapid-fire trial to test the benefits of reminders and inclusion of case studies
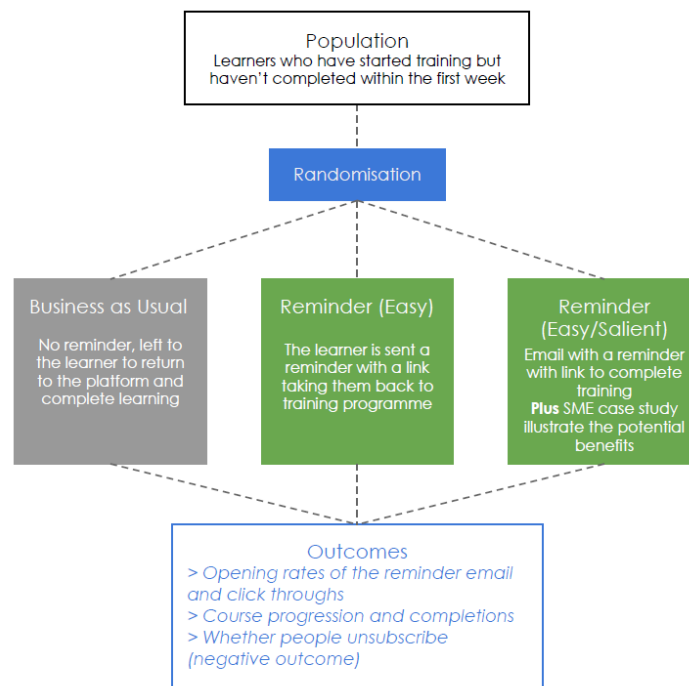
Providing additional support for innovators - other ideas

- *Testing coaching and advice services for scale-ups, potentially in combination with other existing programmes*
- *Keeping firms within the country by training SMEs on how to achieve growth domestically, including access financing, mergers & acquisitions*
- *'Bridging' the support given to firms that are past the innovation capacity stage, but not yet advanced enough to be eligible for larger funding programmes*
- *Providing SMEs with training on how they can identify new innovations and how to manage the delivery of projects to progress from idea to commercialisation*

3.3 Simple tweaks to boost engagement with programmes and policies

Ensuring that innovators and businesses are aware of their agencies and the available support was another common challenge that participating agencies identified as an area for experimentation. Websites, newsletters and social media were seen as a quick and effective way to reach new businesses and provide them with information that will help them become more innovative.

Many of the ideas discussed looked at how rapid-fire trials could be used to find ways to encourage more people to open, read and respond to the information provided. During the Task Force we also looked at how this form of experimentation, quick and easy to conduct, can provide a way to introduce this approach and be the first step towards more ambitious experiments.

One agency runs a regular survey for entrepreneurs, so they can understand their needs and how to support them. However, the survey tends to have low response rates and so they would like to experiment with different messages or incentives to increase the response rates. Another agency is looking into how it might be able to tailor newsletter content for specific groups of recipients - e.g. is there benefit from adapting their newsletter to target startups or would engagement amongst that group remain comparable to a single newsletter that is sent to all recipients.

Simple tweaks to boost engagement with programmes and policies - other ideas

- *One agency was looking at how to promote diversity in its funding and support. As a starting point they wanted to look at how they might test small changes to their own recruitment processes to hire more diverse innovation and technology advisors. They hope this would then help the agency move towards supporting more women- and minority-led businesses.*
- *Inspired by research by Ganguli et al (2021) several agencies considered whether small tweaks in emphasis within the wording of funding calls might change who submits applications or the content of their proposals.*

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4. Lessons learned about becoming experimental

Becoming experimental is seldom a straightforward process, and both the journey and destination can look different depending on the context individual agencies work within. Within the TAFTIE Experiment! Task Force, each agency experienced different challenges and discovered varying opportunities to forge ahead on their experimental journeys. Despite the multitude of experiences, all agencies benefited from peer exchange that helped deepen individual skills that could be applied and shared beyond the Task Force. Peer exchange also helped to unlock creative ways to address barriers, whether directly through the deep dive sessions that focused on problem solving or indirectly through shared resources that helped spark ideas to address other problems agencies faced.

It is important to note that all Task Force agencies faced increased pressure and drastically changing priorities as a result of the COVID-19 crisis. Alongside a complete overhaul in ways of working, original plans for interventions to test using experimental methods were deprioritised in the face of more immediate tasks. Experimentation, while still acknowledged as important, was harder to dedicate time and resources to when agencies were facing a set of novel and time-sensitive pressures - with acting fast being more important than taking the time to plan ways to improve and evaluate interventions. This makes the shared learning and skills developed a huge gain in the face of these unprecedented times. We would expect that under normal circumstances that more practical applications of experimentation methods would take place.

Below we set out some of the main lessons learned by agencies taking part in the Task Force about the process of becoming experimental.

1. Becoming experimental cannot be led by one person

The Task Force brought together one (sometimes two) representatives from each agency. In the absence of wider engagement beyond the individuals in the Task Force, it was hard to diffuse learning and locate alternative opportunities to run experiments when original plans had to pivot as a result of the COVID-19 pandemic. While the Task Force was designed to provide open sessions for others to join in, inconsistent attendance made it difficult to capture and translate the skills developing over time in the Task Force group to those attending ad hoc sessions.

To accommodate the various levels of understanding, the open sessions also had to be designed in a way that did not overwhelm participants, reducing the opportunities to delve in deeper into the content or supplement experiment examples with activity-based learning such as practice activities. For these reasons, becoming experimental works best when it is embedded across the divisions of an agency, rather than being led by a single person or team.

2. Institutional buy-in is needed to support experimentation

Running an experiment requires supporting infrastructure and support from the management of an organisation. While building capabilities to experiment always formed part of the aims for this Task Force, it quickly became clear that in many instances, the changes required - accessing data, deciding on evaluation practices or randomization of a chosen sample - needed institutional-level buy-in to actually move ahead. As such, becoming an experimental agency needs to be driven both from the bottom up, by teams designing and delivering interventions, and top down, mandated by those with the power to approve new practices that push the boundaries of existing systems.

3. Experimentation requires dedicated time to <u>do</u> the work

Even the most enthused experimental champions were caught at a roadblock when more pressing priorities derailed their initial plans to run an experiment. Becoming experimental and applying skills in practice will always take time and resources. During the Task Force we looked at how rapid-fire trials could utilise existing mechanisms to deliver fast and easy experiments to improve aspects of programme delivery. Most agencies had hopes of undertaking experiments that involved more substantial interventions and impact evaluations. Even those who wanted to start with simple trials (such as variations in the wording of newsletters) found a need to make new connections within their agencies and investigate existing data and the capabilities of email platforms.

When experimentation is seen as a 'nice-to-have' but optional approach, the journey will be slow and experimental ways of working will be less likely to embed themselves within an agency's culture. That said, there is value in doing what is possible and learning to pivot when things do not go according to plan - this is a likely variable in any given situation. However, dedicated time to practically move ahead, particularly to push beyond the first stages of the experimentation spiral to implement a trial is key for those wishing to see the real gains that experimental methods can bring to their work.

4. Once designed, an experiment may not be flexible for changing priorities

As was shown by COVID-19, once an experiment is designed or is up and running, taking into account all of the variables needed to inform the logic model, identify the sample group and outline indicators to measure, it is difficult to adapt a particular trial to other aims. This challenge limits the occasions when experimentation through RCTs is feasible but it does not mean experimental methods are impossible to apply. For example, an impact evaluation using an RCT will require consistency in how the tested intervention is delivered and its outcomes measured but in these circumstances other evaluation methodologies, more flexible but less powerful for causal inference, could be used to capture learning. Similarly, the scope of RCTs could be narrowed to examine much more proximate outcomes delivering results more quickly and to provide information to aid a more agile approach to policymaking.

5. Experimentation can create openness to trying something new and learning in a rigorous way

The challenges facing innovation agencies are many and require new ideas. Becoming experimental is an opportunity to embrace uncertainty as a way to learn in a structured way what works. Throughout the Task Force, agencies initially struggled to identify a policy challenge to apply experimental methods to but soon learned that from rapid-fire trials to pilots, there were many ways to bring experimentation into their work, beyond running a randomized controlled trial. For the future of innovation policy this openness to learning and to using evidence gathered to inform decisions, both large programme related choices to small tweaks to the delivery of an existing intervention.

6. Considering experiments to run helped highlight areas where useful capabilities could be developed

For many agencies becoming experimental is also an opportunity to take stock of existing capabilities and identify what else is needed to enable an experimental culture. Whether it be the need for more rigorous forms of data collection and sharing between departments or policies that may allow experimental methods to be embedded in existing evaluation processes, designing an experiment will build knowledge of what capabilities an agency already has, as well as what they may need to build over time.

7. There are considerable benefits to be gained from peer learning and connecting with a wider experimentation community

Despite different context and challenges, it was surprising to see the number of similarities between agencies. While the Innovation Growth Lab provided the expertise on how to design and run experiments, through facilitated peer-exchange all agencies contributed their real-world experiences to help solve challenges faced by others. The deep dive sessions were a great illustration of how much quality support could be derived from the experiences of other innovation agencies. For champions in ecosystems where experimentation had still not been widely embraced, connecting with a wider network allowed them to learn through problem solving based on what others were facing.

8. Freedom to experiment can be constrained by governance structure and funding limitations but opportunities can still be found

Several agencies found their ability to consider experimentation bound by institutional constraints (e.g. strong hierarchical decision-making), lack of autonomy from fixed funding and policy parameters and a culture of risk aversion and fear of failure. During the Task Force we considered that even in these cases opportunities could still be found. With the potential for "under the radar" experimentation, such as rapid-fire trials with communications and shadow experiments similar to FFG's assessment pilot. These can be used to build the wider openness and capabilities in the agency so that it is well positioned to create and respond to more substantial opportunities that arise as was the case for FFG with INNOSUP-06-2018.

5.   Final reflections

As the first Experiment! Task Force concludes, the Task Force leads and IGL have reflected on both the process and the outcomes of the work. Our key takeaways are as follows:

- **COVID-19 was both a disruption and a galvanising force for innovation agencies**. The original plans for the Task Force were significantly disrupted by the global pandemic. Unsurprisingly, the focus and priorities of participating agencies were pulled towards dealing with the new challenges and demands facing them, and many found it difficult to carve out the time or the resources to develop their plans for experiments. However, the pandemic also highlighted the critical importance of building intentional learning systems into the design and development of new programmes, particularly when working at speed. As a Task Force, we were able to pivot and adapt to the new reality facing agencies. With agencies having had to rapidly develop new solutions and ways of working, we discussed ideas for what could be piloted or developed to support businesses and innovators emerging from the pandemic.

- **Combining 1:1 and group support allowed agencies to move at the appropriate pace for their own experimental stage.** It quickly became clear that the agencies in the Task Force were on different trajectories in terms of their experimental journeys. Group workshops and deep dive sessions allowed for a large number of ideas to be discussed, and agencies were inspired by the experiments being explored by others. However, it was essential to follow this up with more tailored 1:1 conversations with agencies about their own context and priorities. This was important in building momentum and helping some agencies to start designing pilots or trials, or to recognise what would need to happen to enable them to be ready to run experiments in the future.

- **A fully virtual Task Force posed some challenges in terms of maintaining momentum and a sense of community.** Without the opportunities that would normally be present within a TAFTIE Task Force for in-person social connections to be built between participants, we had to be creative about facilitating these online. A Task Force Slack was set up which was helpful for keeping in touch with the progress being made by different agencies, and the open discussion and deep dive sessions were structured to be as interactive as possible, with breakout sessions to allow for less structured conversations. However, for future hybrid or virtual activities, it would be important to build in more moments to mark progress and allow agencies to share their experiences in a more informal way.

- **Benefits from working on a more experimental approach are not only achieved from actually running the experiment.** Even agencies that were not able to run their own experiments found value in the approach. For example, setting themselves the task of thinking more deeply about outcome measures at the outset of a programme or examining what existing data might tell them about the rationale for change, as well as what data and information should be collected as part of monitoring systems.

- **It would be great to see the ideas and examples discussed during the Task Force applied to other contexts.** Unfortunately it was not possible to take forward many of the experimental policy ideas that agencies had developed. In all but a few cases agencies were seeking to tackle issues that resonated with their peers, as did many of the existing examples that were brought into the Task Force from different policy fields. It would be great to see other agencies picking up the ideas and seeing how they might be taken forward. Even when experiments were undertaken and have provided results we should not take for granted that the intervention will have the same results when applied in other contexts, especially if the evidence tells us about impacts but can do little to tell us the story of why and how these occurred across the theory of change. Replication studies would add to the evidence base by seeing whether it is possible to reproduce the trial in a similar context to check intervention transportability.

As observed in the Task Force, the process of becoming an experimental innovation agency is not always linear, and it can take time to build up the required openness and capabilities. The Experiment! Task Force helped all TAFTIE agencies to develop a better understanding of what it takes to experiment, and supported a number of agencies in either taking their first steps towards the application of experimental methods, or further developing their practice in this space. However, there would be value in maintaining and building the peer learning community that has been established within Experiment!

6.   Knowledge Repository

Only available for Taftie members:

For the benefit of Taftie members curious to find out more, a core set of workshop materials have been collated to outline the experimentation journey as has a collation of the ideas and example experiments that were discussed.

For those seeking more detailed information you can browse the full set of workshop recordings, presentations and further resources.

You can also find templates for a Trial Protocol, planning pilots and writing logic models in the Taftie Experiment! Knowledge Repository in the members area of the Taftie website.

Further reading and resources on ideas for experiments are also available:

- The IGL Trials Database provides details of more than 150 RCTs that are all relevant to innovation, entrepreneurship and business growth policy
- Innovation policy experiments funded through INNOSUP-06-2018
- IGL working papers, blogs and newsletter

Appendix: Findings from the final Task Force closing events

Two final Task Force closing events were organised with the aim to:
- Highlight key learnings from the Task Force
- Reflects on common challenges and barriers to experimentation
- Begin to consider what next for Task Force members
- Share key findings from this report and final recommendations with Task Force members
- Celebrate all the work and relationships built as a result of this Task Force.

Pre-event survey results

- We received 12 responses from 9 Taftie member agencies on their experience of participating in the Experiment! Task Force prior to the final event.
- Out of the 12 responses received 50 per cent came from Taftie members who had joined the Task Force from the start, while the other half joined partway through.
- 90 per cent of participants indicated that they had learnt something new as a result of participating in the Task Force. Lessons included:
  - How to use experimentation and randomised controlled trials
  - Examples of good practice when running experiments
  - Challenges and how to deal with barriers
  - How to seek opportunities to experiment and the importance of planning.
- On applying learning from the Task Force in real life, only one third of agencies said they had done something differently in their agency as a result of participating in the Task Force. This was not an unexpected result given the barriers presented in section 4 of this report.
- While application of learning was limited, this did not reduce what agencies were able to get out of the Task Force. Out of those who did manage to do something differently, they did:
  - Introduce the idea of experimentation to their organisations
  - Consider the work being applied by their agencies differently
  - Use the opportunity of virtual Task Force Open events to include others from their organisation
- Going forward, respondents of the survey had many ideas for how to take their experimental work forward post Task Force closing. This included:
  - Bringing experimentation, sustainability and transformation agendas closer together
  - Designing pilots and running other experiments
  - Completing experiments or experimental ideas that had been kickstarted during the Task Force and not completed as a result of COVID-19 and other barriers
  - Using evidence from randomised controlled trials to inform program design
  - Building internal capabilities to run experiments
  - Building and maintaining a wider community of experimentation champions both within agencies themselves and the TAFTIE network.
- When asked about how TAFTIE might continue the work started in the Experiment! Task Force respondents were interested in a mix of approaches.

Value		Percent	Responses
A follow on Task Force		36.4%	4
TAFTIE Academy learning sessions on experimentation		81.8%	9
Tailored sessions for senior leaders within TAFTIE agencies		63.6%	7
Informal peer learning sessions between TAFTIE agencies		63.6%	7

Key takeaways from Task Force closing events

Both closing events focused on mapping what was learnt to prepare Task Force agencies to continue their experimental journeys. On day one, Task Force members mapped what went well and what didn't go according to plan. A wealth of learning was captured from each agency's experience.
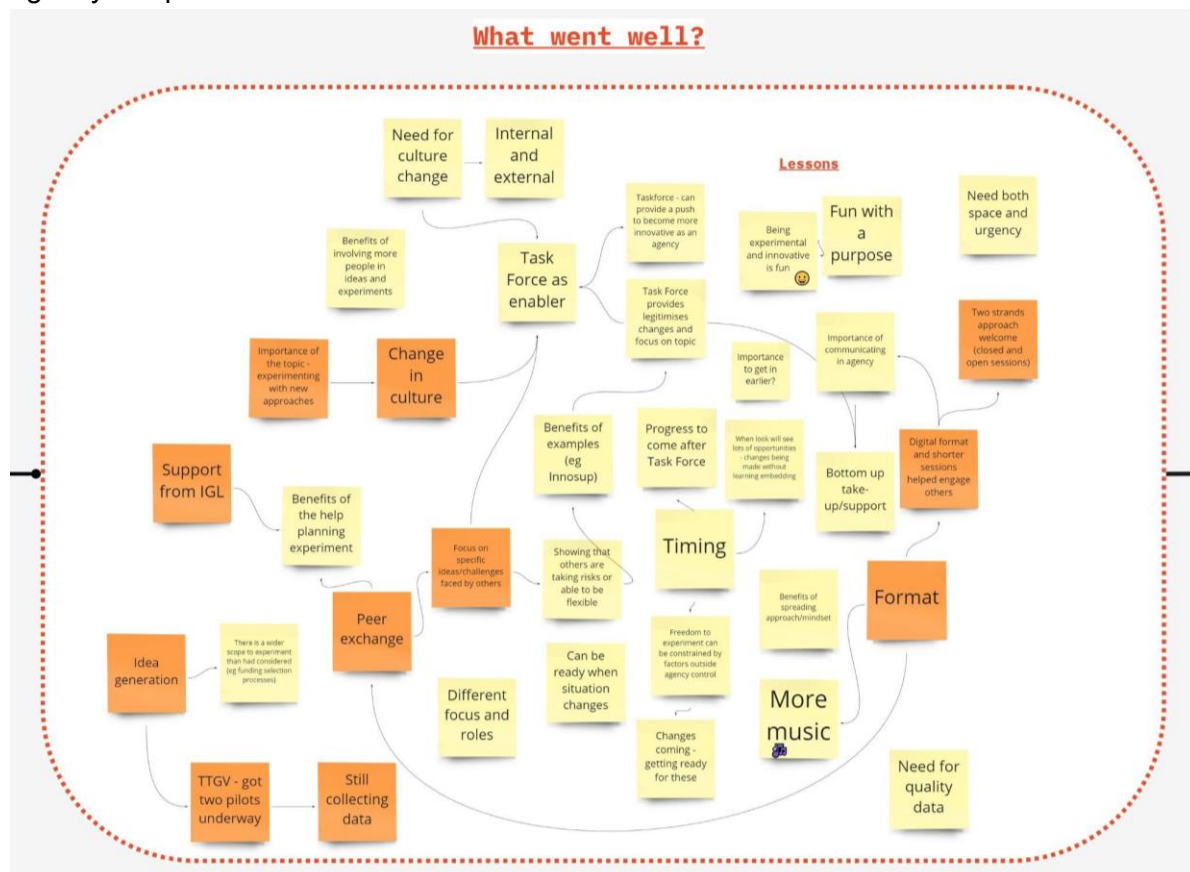
Co-working board on 'What went well' *captured from Miro.*
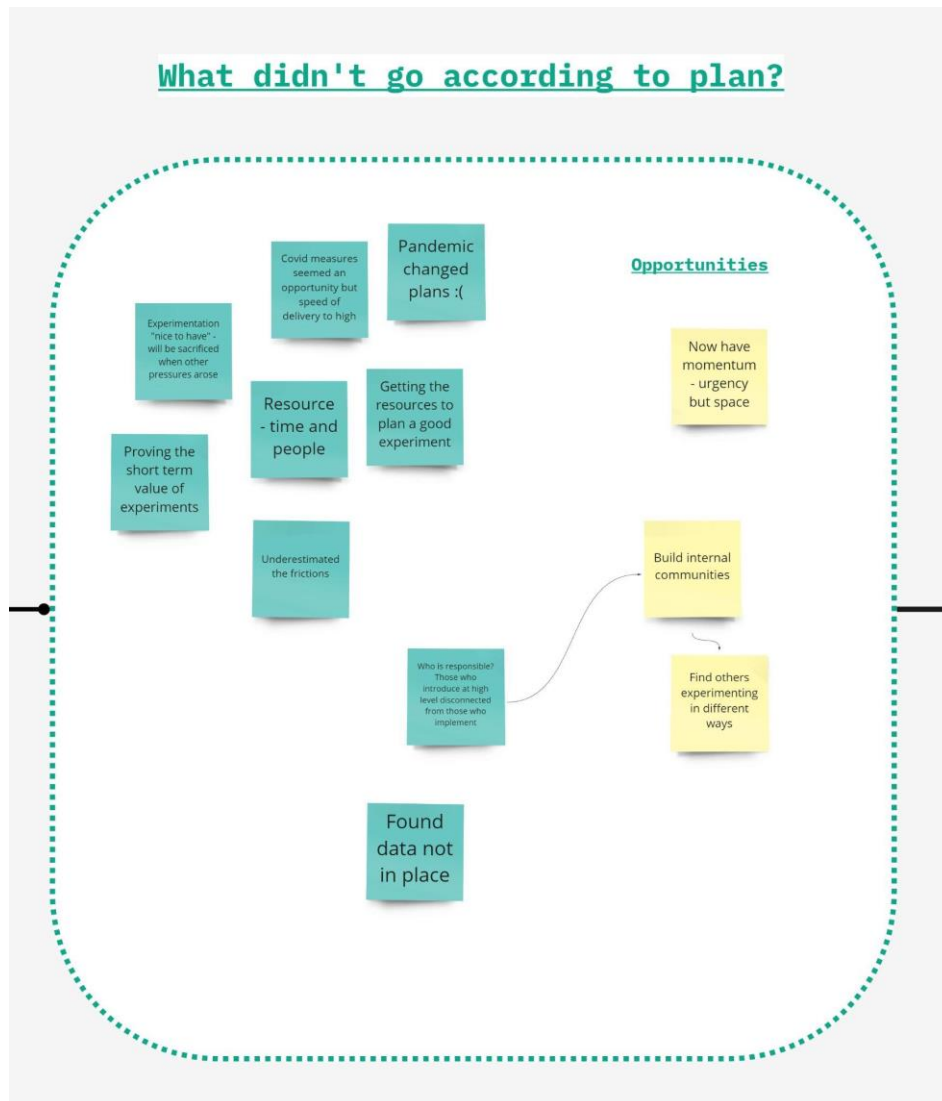
Co-working board on 'What didn't go according to plan' captured from Miro.

At the end of day one, we summarised the discussion under three themes.

On culture:
Through the Experiment! Task Force, the culture change to become experimental was kickstarted for each agency. Task Force members discussed who else needed to be involved going forward and how to build internal communities of experimentation champions within each agency. Getting commitment from management in particular and moving beyond just one small experimental team we highlighted as important factors.

On skills:
Everyone agreed that lots of experimental skills (not just knowledge on how to design and run a trial) were developed during this Task Force. This included generating experiment ideas, getting to grips with how to plan and run an experiment, learning to be agile, seeking opportunities to start small. Task Force members explored how they could build these skills even further and what the next stage of learning required was to put theory into practice.

On future collaboration(s):
Introducing and then running experiments was highlighted as something that is hard and requires ongoing support. Task Force members explored other kinds of opportunities for peer exchange and collaboration with IGL or other researchers would support getting an experiment off the ground.

On day two of the closing event, the Task Force focused on pulling their learnings into 'gifts' - short lessons or experiment ideas to help them to stay motivated and inspired as they continued their experimental journeys.

The short lessons or experimental ideas included:
- Sharing the report and other resources from the Task Force with wider networks
- Using the final report co contextualise further exploration of experimental ideas
- Running simple experimental trials first before planning a larger experiment
- Remembering that experimentation is also about failure (learning by what has not worked as well as what works)
- Remembering that experimenting can be simple and one must seek existing opportunities
- Remembering to share good practice examples of experiments to maintain enthusiasm.