



Barriers and enablers of regulatory experimentation

Findings from NSW and abroad
*A report for the NSW Productivity
Commission*



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1. Executive Summary

The benefits of improved regulatory practice encompass a range of positive economic impacts, increased efficiency, and improvements to public wellbeing. However, these practices and policies need to adapt to the ever-changing market, including acute external shocks like the COVID-19 pandemic. A key approach to adapt to these challenges is to base policy on robust evidence. One tool that regulators use to generate this evidence is regulatory experimentation which requires changing a regulatory product, process, or policy, and evaluating the impact of this change. Regulatory experimentation involves gathering data to understand what does and does not work in any regulatory environment. How this data is practically applied varies depending upon the context and findings. Nonetheless, collecting data through evaluation, regardless of effectiveness, is critical in maturing our approach to regulation.

Temporary regulatory changes were introduced by the NSW Government at the outset of the COVID-19 pandemic to support businesses and communities to function more smoothly. This effectively launched a series of natural ‘regulatory experiments,’ many of which were extended in 2021, on the advice of the New South Wales Productivity Commission.¹ In July 2022, the New South Wales Productivity Commission evaluated the outcomes of these regulatory relaxations, finding that the relaxations provided substantial benefits and boosted the economy by \$3.1 billion over the next decade.² To build on this work, the Behavioural Insights Team (BIT) was commissioned to conduct qualitative interviews to better understand the current state of play with regards to regulatory experimentation, and what strategies agencies use to establish a culture of experimentation. Taking a behavioural approach enables us to break down overall hesitancy or support for experimentation into specific barriers and enablers. These factors can then be considered, from a behavioural perspective, to identify touchpoints and levers to encourage regulatory experimentation.

The following report outlines the findings of 25 semi-structured interviews with participants from NSW, interstate Australia, and international agencies in Canada, Singapore, the UK and elsewhere in Europe.. These countries were chosen as they represent a similar regulatory and policy environment to NSW. Specifically, our research focused on:

1. What are the barriers and enablers faced by NSW agencies to regulatory experimentation?
2. What are the differences in the experiences and attitudes of experimenters and non-experimenters?
3. How have experimenters (in best practice NSW agencies and other jurisdictions) responded to barriers and enablers to experimentation? How could these lessons inform approaches that NSW agencies can use to encourage regulatory experimentation?
4. What are the drivers of regulatory experimentation among experimenters?

¹ [NSW Productivity Commission White Paper 2021—Rebooting the economy](#)

² [Lessons from COVID-19 Regulatory Relaxations](#)

To answer these questions, we first summarise what regulatory experimentation is, how different organisations conduct regulatory experimentation and why some interviewees favour experimentation more than others. Crucially, we deep dive into the barriers and enablers to regulatory experimentation, and identify areas where enablers have been used to overcome barriers. A summary of our findings is captured below:

Barriers to regulatory experimentation

From our interviews, we identified three main types of barriers to regulatory experimentation:

- **Resources and logistical constraints:** Financial and time constraints were the primary challenge for many regulators. Anything beyond business-as-usual was difficult to fund and resource. Ensuring that experiments met the regulatory and legislative timeframes was difficult, and navigating regulatory processes could be difficult. Interviewees also cited a lack of specialised knowledge, and barriers to necessary collaboration with external stakeholders.
- **Risk aversion:** The risks that regulators were concerned about varied from concerns about wasted resources in the event of a failed experiment, to potential negative impacts on community members. There was also a broader concern about what types of activities and experiments would be legally and socially permissible.
- **Negative attitudes:** Negative attitudes ranged from concerns about community perceptions of regulator actions, to internal concerns about experiments potentially failing. While some interview participants cited active resistance to experimentation from internal stakeholders, others noted that a lack of a culture of experimentation meant many regulatory staff simply did not even think about experimentation, leading to missed opportunities.

Enablers of regulatory experimentation

To address these barriers, we found five categories of enablers that could be used to facilitate more regulatory experimentation:

- **Building internal capacity:** Many regulators had success by starting small - focusing on small-scale experiments or “quick wins” was a good way to overcome time and cost constraints, and to de-risk potential experiments. A number of regulators focused on online experiments rather than field experiments. To build their experimental capacity - some regulators focused on creating a dedicated internal team for experimentation, whilst others focused on bringing in outside expertise to support their efforts.
- **Having institutional support:** Strong support from the organisation, typically from senior leadership, was key to successful experimentation. Support could also be driven through external statements or actions - statements from ministers, or commitments in public strategic plans, often gave senior leadership “cover” to support experimentation.
- **Having a clear rationale for experimentation:** Making sure that the purpose of an experiment is clearly defined and scoped is key to its success - a clear rationale helps to de-risk an experiment, makes the value clear to stakeholders and is easier to justify internally. One common method for ensuring that experimentation was constrained

was the use of regulatory sandboxes - these allow businesses to seek approval to operate outside the normal regulatory regime, but only on a trial basis and in a limited scope.

- **Specific communication and framing of experimentation:** Raising awareness about, and promoting the benefits of, regulatory experimentation, was often an important aspect of establishing an experimental culture. Framing experiments in the right way was often key to getting support - for example, focusing on the potential positive benefits (rather than the risks), and framing experiments as trialling changes that could be rolled back if they were unsuccessful.
- **Collaboration:** Working directly with stakeholders allows for greater influence and buy-in, whilst working with other regulators allows for lessons to be learnt and best practices to be adopted. More indirectly, when regulators publicise and publish their experimentation, it provides guidance on how to experiment, as well as making experimentation seem more commonplace and acceptable.

After consolidating barriers and enablers of regulatory experimentation, we synthesise these findings to answer two questions.

What are some regulatory policy areas where behavioural insights could be applied to promote experimentation?

Our interviews highlighted that evaluation and experimentation can be applied to all policy areas. However, within each policy area, some parts will provide more fertile ground to experiment more easily than others. We have identified factors that make specific policies or regulations particularly well suited to experimentation, which will be valuable where regulators are not experienced in experimentation. As experimental expertise develops, regulators should look to apply experimentation to all policy areas as opposed to being constrained to policy areas which fit certain characteristics, captured below:

1. Where there is uncertainty about outcomes, or policy designs.
2. Where outcomes can be measured, and measured fairly quickly.
3. Where behaviours are isolated.
4. Where there is regulatory flexibility.
5. Where there is little to no risk of tragic outcomes.

What are practical steps that NSW agencies can take to encourage regulatory experimentation?

There is no single recommendation to encourage regulatory experimentation within an organisation as this depends largely on the organisation's circumstances and contextual environment. However, there are a collection of general principles that can help, and we recommend taking as many of these as possible to encourage regulatory experimentation:

- Get a foot in the door by starting small.
- Scope experiments properly with detail and implementation intentions.
- Reduce the perception of risk and fear of failure with messenger effects. Use formalised processes to make experimentation front of mind.
- Build a social norm with operational transparency.
- Create an incentive system to encourage all stakeholders to experiment.

Applying these practical steps, we have identified four areas of experiments that most regulators could use as a starting point for experimentation:

1. Testing communications
2. Using online trials
3. Testing new programs
4. Streamlining or altering existing processes

2. Methodology

We conducted 25 semi-structured interviews with practitioners or stakeholders involved with regulatory experimentation.

Recruitment

Participants were recruited via the professional networks of the NSW Productivity Commission, and by snowball recruitment from existing interviewees. We did not seek to sample participants in a way that was representative of the broader population of regulatory agencies, and instead focused on recruiting interviewees from organisations with a broad range of experience and maturity with respect to regulatory experimentation.

16 interviews were representatives from agencies within NSW government departments. 9 interviewees were from organisations based outside of NSW, chosen because of their high performance and mature culture of experimentation (including federal agencies, and organisations from Singapore, Denmark, the UK, and Canada). A breakdown of regulatory domains across both NSW and non-NSW organisations is below:

Regulatory domain	Total number of interviewees
Consumer welfare	4
Energy	4
Education	3
Employment	3
Transport	3
Environment	2
Crime and justice	2
Finance	2
Other	2
Total	25

Interview approach

Interviews were one hour in duration and conducted virtually. We used the [BIT Barrier Identification Tool](#) to structure some of the interview questions. The tool was developed by adapting the COM-B model, one of the most widely used models in the behaviour change

literature³. We also used primer slides that prompted participants to consider barriers and enablers in the following categories: Awareness and knowledge, Opportunities, Social norms and role models, Attitudes, Emotions and habits. The full interview guide can be found in [Appendix A](#), along with the prompts.

Analysis

Data from interviews was processed using thematic analysis, a method for identifying, analysing and reporting patterns within qualitative data.⁴ Specifically, we used the framework method, which involved consolidating interview notes and recordings into a matrix, organising and coding findings, examining commonalities and differences in these codes, and generating linked themes.⁵ A combination of deductive and inductive coding enabled us to draw descriptive and explanatory conclusions that clustered around pre-identified themes, as well as novel themes that emerged from our interviews.

³ Michie, Susan, Maartje M. van Stralen, and Robert West. 2011. "The Behaviour Change Wheel: A New Method for Characterising and Designing Behaviour Change Interventions." *Implementation Science* 6(1):42. doi: [10.1186/1748-5908-6-42](https://doi.org/10.1186/1748-5908-6-42).

⁴ Braun, Virginia, Victoria Clarke, Nikki Hayfield, and Gareth Terry. 2019. "Thematic Analysis." Pp. 843–60 in *Handbook of Research Methods in Health Social Sciences*, edited by P. Liamputtong. Singapore: Springer.

⁵ Gale, Nicola K., Gemma Heath, Elaine Cameron, Sabina Rashid, and Sabi Redwood. 2013. "Using the Framework Method for the Analysis of Qualitative Data in Multi-Disciplinary Health Research." *BMC Medical Research Methodology* 13(1):117.

3. Findings

In this section, we first give a sense of the diversity of different approaches to regulatory experimentation across our interviewees. We then summarise different interviewees' views on the value of experimentation. Finally, we categorise our findings into **barriers** to regulatory experimentation - factors and perceptions which prevent regulators from regularly experimenting; and **enablers** - factors which facilitate experimentation.

What is regulatory experimentation?

For the purpose of facilitating informed discussion this section will outline a common definition of regulatory experimentation:

A regulatory experiment is a test or trial of a new product, service, approach or process designed to generate evidence or information that can inform the design or administration of a regulatory regime.⁶

This definition allows a range of different approaches, and does not specify any requirements on the timeframes of evaluation, the dynamics of the regulatory changes, or pre-commitments to specific hypotheses as might be seen in scientific experimentation. This definition allows for “simulations” of what might happen when regulatory processes are changed, as might be seen in online experiments, or regulatory sandboxes (and where there is a limit to the generalisability of outcomes to a regulated population). While regulatory experimentation may draw on other disciplines, it often doesn't fit into the formal categories that other disciplines might use (e.g. randomised vs quasi-experimental vs pre-post). Due to complexities of the regulatory environment, it can also vary substantially in terms of its scientific rigour.

Note that this definition also doesn't specify what regulatory processes are. Regulatory agencies have varied jurisdictions, and their regulatory actions vary considerably; from administration of payments (e.g. a tax office), protecting the public from harm (e.g. food quality, criminal justice, health), to implementing ideal models for public or economic benefit (e.g. education, transport).

Notably, when interviewees were asked to define regulatory experimentation, while responses typically touched on aspects of the definition above, answers were very diverse. In particular, some interviewees saw regulatory experimentation as serving only a specific agenda (e.g. a move away from compliance-based regulation), rather than as a general tool for reducing uncertainty.

⁶ Centre for Regulatory Experimentation, Canada
<https://www.canada.ca/en/government/system/laws/developing-improving-federal-regulations/modernizing-regulations/regulatory-experimentation.html>

How do different organisations conduct regulatory experimentation?

The practice of regulatory experimentation varies substantially across regulatory remits and jurisdictions. For example, regulatory agencies can experiment with compliance processes (e.g. trialling novel methods of ensuring compliance, such as sending reminders to regulated entities). They can also experiment with internal processes (e.g. changing eligibility criteria for funding of industry partners). Some regulatory agencies trial different methods by which the industries they regulate should interact with consumers (e.g. encouraging consumers to engage with the market). Finally, some regulators will continually evaluate the implementation of large scale policy reforms as they are rolled out, in order to tweak the further roll-out of these reforms. A number of illustrative case studies have been provided throughout this report to highlight the range of approaches to regulatory experimentation.

Why do regulatory agencies experiment?

While regulatory experimentation is generally understood to be valuable, some specific findings emerged with respect to why agencies experiment.

- 1. Regulatory experimentation can provide evidence of which directions regulatory agencies can take in order to regulate more effectively, and maximise public benefits.** All regulatory landscapes are subject to change, and this changing environment puts a demand on regulators to adapt and innovate. Whether this pressure comes from acute changes (e.g. the introduction of new products or services), slower, systematic changes (e.g. shifts from compliance-based models to outcome-focused models of regulation), or simple economic factors (e.g. ensuring regulatory resources for domains with rapid growth), experimenting with new processes or models can provide evidence of which directions regulatory agencies can take in order to regulate more effectively, and maximise public benefits..
- 2. Regulatory experimentation can overcome opposition to beneficial policies and prevent the rollout of ineffective policies.** Sometimes there is already existing evidence or reason to believe that a particular policy will benefit the regulatory environment. However, regulatory agencies may face challenges from stakeholders in implementing these policies - for example where these new policies might carry high levels of risk or negative side effects (either real or perceived). Testing these policies in a limited environment, or for a limited timeframe, can demonstrate that these risks or possible negative impacts do not eventuate, or can be managed, therefore overcoming this opposition. On the other hand, experimentation can also demonstrate where risks are substantial, and prevent the rollout of policies that could be ineffective, or cause public harm.
- 3. Regulatory experimentation builds a toolkit of evidence and methods that can be used for continuous improvement. . By empowering agencies with the ability to experiment, and building internal capability, agencies can engage in experimentation more effectively, and build an evidence base.** Importantly, knowledge and evidence gained from conducting regulatory experimentation can be taken and generalised to other, similar regulatory contexts in other jurisdictions, or similar issues that arise in the future.

Barriers to regulatory experimentation

Our interviewees highlighted a range of barriers to regulatory experimentation. Broadly, these can be grouped into three main categories:

- **Resource and logistical constraints**
- **Risk aversion**
- **Negative attitudes**

Resource and logistical constraints

1. Financial and time constraints

Most regulators expressed some concerns about obtaining resources and financial backing to co-ordinate and carry out regulatory experimentation. This concern is enhanced in many cases by the fact that experimentation does not fall into the remit of business-as-usual - many regulators do not have the capacity to conduct experiments under their normal resourcing levels. As a result, regulators are often required to secure buy-in and support from senior staff, in order to secure resources on top of their day-to-day roles. This can be particularly challenging when, by definition, the outcomes of an experiment are uncertain and somewhat unknown, making experimentation a less appealing option for dedicating additional funds to.

This barrier is also likely to be the main issue with respect to ensuring the validity of the results of regulatory experiments. This is because scientific rigour, and the confidence given to results, are fundamentally related to how much time and effort are allocated to experimental approaches.

“The volume of things we have to deal with is so significant that it can overwhelm people’s ability to try new things or think of different approaches.”

– NSW regulator 10

“Experiments are generally good, but they can be time consuming and politically difficult (especially if things go wrong)”

– Non-NSW regulator 7

2. Incompatible time scales

Political and organisational time frames do not always allow for experimentation. The pace of the political landscape often requires fast turnaround times for regulators, which does not allow sufficient time for good, robust and rigorous experimentation.

“Large RCT field trials take time, but it’s harder to get buy-in for these and the problem might change in that timescale.”

– Non-NSW regulator 6

In some instances, a longer review process for regulation can also hinder experimentation. Where regulations are subject to a more intermittent review process (for example, one interviewee referenced a five year review cycle), regulators are often hesitant to suggest or initiate experimentation until a review is either upcoming or recently completed. In some cases, by the time organisations are interested in conducting experiments, it may already be too late given the timescales that can be involved. This process also leads to less frequent feedback regarding the specific regulation, meaning less attention is drawn to possible areas for innovation.

“People don’t understand that you can’t do a complex field trial in just four weeks.”

– Non-NSW regulator 5

3. Lack of expertise and infrastructure

Experimentation brings together two core knowledge areas - policy and evaluation. NSW regulators in particular identified specific knowledge gaps with respect to scaling initiatives and expanding interventions. Lack of specialised expertise, such as a lack of trial experience or data analysis skills, was identified as a barrier for initiating innovation, while a lack of effective infrastructure to support evaluation was identified as a barrier for furthering experimentation. In particular, data management (e.g. data collection, storage, and analysis) was referenced as an area where NSW regulators lacked sufficient expertise. For example, some NSW regulators referenced not having, or not being able to access high quality data. Other’s said that data was available, but that it was not curated and organised in a manner fruitful for innovation and experimentation.

“It’s not the lack of data, it’s the lack of organised, curated data, and a need to grow in maturity before we can move forward. ”

– NSW regulator 10

Example: Overcoming a lack of expertise (multiple non-NSW regulators)

A number of non-NSW regulators noted that initially, they lacked capability and expertise in experimentation. However, they built this capability up over time, in particular by leveraging

support from external experts on experimentation. Initially, the external support was used for all experimentation, but the projects had a significant capability building program embedded in them. That is, the external experts were involved in not only delivering the experiment, but also in training the regulator on how to conduct experiments themselves in future. Over time, the role of external experts was diminished, and the regulators took on more of the design and delivery aspects of the experimentation.

4. Complexity of regulatory processes

Both regulation and experimentation require complex processes and approvals at various stages. Even where experimentation is straightforward and simple, there are still considerable barriers to getting experiments into place. For example, multiple approvals may be required in a short time frame to gain support and authority for an experiment to go ahead. Further, the complexities of experimentation itself can exaggerate the complexities of regulation. Regulators often find explaining the nuances of experimentation, such as the specific requirements, objectives, risks and constraints difficult. When working in teams or with agencies that could have small capacity, operate within tight remits or work with strict regulatory constraints, being able to sell an experiment quickly and correctly is crucial. However, the combination of complex terms being embedded into an already complex process makes driving experimentation a challenge. This is particularly true for complex processes such as regulatory sandboxing - a regulatory approach which allows for real-time evaluation of innovations with regulator's oversight.

“Large providers are resourced to navigate the complex regulatory frameworks but small providers aren’t.”

– Non-NSW regulator 12

“There is uncertainty around what the role of the regulator is and where the boundaries of a regulatory bodies remit are.”

– Non-NSW regulator 6

5. Difficulty finding, engaging, and maintaining partners for experimentation

In some instances, experimentation can only be achieved through collaboration with industry partners. This is more common in scenarios where the government regulates a market with many participants (such as private transport or financial markets), rather than markets where the government directly delivers, or is closely involved in delivering, a service (such as public transport or education). This dependency on industry partners can create challenges to delivering experimentation, including difficulty in finding an appropriate industry partner to initiate experimentation, convincing partners to participate, or the risk of industry partners withdrawing their support if a trial does not progress in a manner which benefits the partner.

In particular, industry partners might be wary of engaging with regulators if they believe that an experiment could lead to further regulation of the sector. These challenges are particularly prominent in cases where resources (time, budget and manpower) are scarce or tightly controlled.

“Partnering with industry, the incentives sometimes weren’t aligned.”

– Non-NSW regulator 6

“Also key is the ability to get partners for a trial - you need leverage.”

– Non-NSW regulator 5

6. Stakeholder scale and diversity

Stakeholders, particularly external stakeholders, can vary considerably with respect to their views and regulatory priorities. For many experimental approaches, at least a small proportion of stakeholders are likely to be reluctant to participate in a trial or to implement change. This is evident even in instances where there is sound and robust evidence to support a given approach. For regulators, managing stakeholder expectations and challenges can cause friction when looking to pursue innovative approaches.

“We deal a lot with peak groups, community organisations, and councils that expect to be able to have a formal say on reform. Doing things outside of normal processes won’t always be well received by these groups.”

– NSW regulator 5

“If there was a way to be more sophisticated in communicating bad impacts to stakeholders it would really help.”

– NSW regulator 1

Risk aversion

Risk aversion, which refers to our tendency to select options with low levels of uncertainty compared to higher levels, was cited as a barrier amongst both NSW regulators and non-NSW regulators. A general and fundamental role that regulatory agencies have is to assess and minimise risk. This means that risk is often front of mind for many agencies, and

can act as a deterrent to experimentation. Risk aversion was referenced in a variety of ways, including:

- The potential of wasted resources in performing an experiment that doesn't provide conclusive evidence.
- The potential to negatively impact experiment participants (e.g. industry partners or consumers).
- Uncertainty about the authorising environment, and the limits of what is socially or legally permissible.

“[There is] anxiety around the resources and practicalities of running trials.”

– Non-NSW regulator 8

Even if regulatory agencies were positive about an experimental approach, necessary partners (e.g. industry bodies) sometimes had more risk sensitivity, and would be reluctant to collaborate.

Notably, at least one NSW regulator discussed a persistent bias in the way regulators conduct their risk calculations, with organisations focusing on potential risks or losses associated with an innovative approach, rather than the potential positive impacts. More specifically, when calculating the risk associated with a particular experiment or idea, regulators tend to compare the new idea against a 'zero risk situation', ignoring the fact that there is inherent risk in the business as usual approach.

“Risk perception - that's the biggest barrier ... people see a risk in changing supposedly working systems to something that is unknown.”

– NSW regulator 8

While perceptions of risk varied across interviewees, often depending on their regulatory domain, their views on different experimental approaches could be represented on a simple risk spectrum.



As we report in the enablers section below, many strategies that interviewees used to facilitate experimentation explicitly decrease levels of risk on this spectrum..

Example: Excessive risk aversion (NSW regulator)

Perhaps the most demonstrative example of excessive risk aversion came during this project itself - as part of the project, we compiled a series of case studies to highlight examples of good practice in regulatory experimentation. One NSW regulator that we approached to include as a case study declined to have their work included as a case study - even though the content of the case study was already public knowledge.

Negative attitudes

1. Community perceptions

Often, the community has a baseline expectation of what a regulator should be doing and how they should be committing their time and resources. Such expectations do not always align with experimentation, and affected communities can be averse to the idea when it is suggested. For example, interviewees told us that regulated entities are averse to the idea of adding the additional requirements of experimentation on top of existing compliance activities and processes. Sensitively balancing reputational expectations with innovation is a challenge faced by some NSW agencies. Further, the community has its own understanding of risk, for which experimentation does not always align.

“ It’s hard to get people to understand - they are driven by fear, or they don’t like it and can’t accept the idea”
 – NSW regulator 16

One notable aspect of how experimentation was perceived was the language used. For example, some organisations thought that the terms “experimentation” and “trial” carried connotations of high cost or inconvenience. The introduction of sandboxing can be useful in countering confusing narratives around experimentation.

2. Fear of failure

Regulators are concerned with how ‘failed’ experiments will be both perceived and communicated. Amongst both participants who did and did not conduct experimentation, fear of failure was referenced as a concern and a barrier to experimentation. Fear of failure also extends beyond the regulators themselves, and impacts individuals at all levels of the process. For example, stakeholders and community members are perceived as having a fear of failure, limiting buy-in to experimentation (and lack of buy-in was noted previously as a key barrier to experimentation).

“ You need to think very carefully about how you handle failures/non-results. ”

– Non-NSW regulator 7

“ If I could change anything, it would be to be less fearful of not being able to deliver and being brave enough to push forwards.”

– Non-NSW regulator 1

3. Lack of experimental culture and internal resistance

Within many regulatory agencies, experimentation is not common practice. This means that experimentation is often not considered an option when forming or redesigning new and existing policies. Lack of familiarity and exposure to experimentation contributes to this, and leads to apprehension when regulators first suggest experimentation.

“ People will often talk a big game of wanting innovation, but when the time comes, individuals get nervous about being the first ones.”

– NSW regulator 3

“ People don’t have the ‘habit’ of doing or thinking about experiments.”

– Non-NSW regulator 7

In some cases, there is active resistance to experimentation. Internal resistance can stem from status-quo bias,⁷ where individuals operate in a rigid culture, believe they know what works best, and strongly oppose any change. It may also stem from previous negative experiences with experimentation.

⁷ Samuelson, W., & Zeckhauser, R. J. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1, 7-59.

***“ Sometimes the barrier to change is: ‘this is the way we do things’
– NSW regulator 5***

Example: Overcoming negative attitudes (Non-NSW regulator 5)

One non-NSW regulator noted that initially, the experimentation team faced some internal resistance to experimentation and had to do significant internal advocacy to get others within the organisation to work with them. This included conducting internal training sessions demonstrating their approach, talks at team meetings in other parts of the department, and regular meetings with senior staff to showcase successes. However, once the team started having success and demonstrating that they were able to generate useful insights through experimentation, they noted that there was a much greater acceptance of experimentation. Over time, they found that other teams would now proactively approach them for assistance in conducting experiments.

Enablers of regulatory experimentation

Our interviewees highlighted a range of enablers, factors which facilitate regulatory experimentation within their agency. We have categorised the enabling factors into 5 groups:

- **Building internal capacity**
- **Having institutional support**
- **Having a clear rationale for experimentation**
- **Specific communication and framing of experimentation**
- **Collaboration**

The enablers should be read and interpreted as recommendations for how regulatory experimentation can be encouraged within an organisation. They are presented in order of priority. To embed regulatory experimentation into best practice, agencies should first look to build internal capacity and have strong institutional support. Once these are established, the more specific enablers relating to communication, rationale and collaboration should be encouraged.

Building internal capacity

1. Starting small

Building momentum was critical for what many agencies considered to be success in their roles. Many established experimenters noted that they had to start with small, contained experiments to build momentum, acceptance and credibility within the organisation. Prioritising 'quick wins' was a particularly effective approach when looking to secure buy-in from senior leaders, as smaller and more contained experiments were more likely to yield positive results quickly, and if they were unsuccessful, the impact was limited.

A number of experimenters noted that they now received unsolicited requests for help with experimentation after having built a portfolio of experiments over time. Starting small was therefore often an enabler to building the case for further experimentation, and was one of the most important factors gaining broader institutional support (see next section).

“The first experiment and the hundredth experiment will be very different. The first will be more expensive, longer, and worse. But it takes time to build up this capacity... ”

- Non-NSW regulator 7

“Having a past track record builds confidence that the team are capable, and good outcomes from past projects gives senior leaders confidence to do [more].”

- Non-NSW regulator 8

Example: Starting small (Non-NSW regulator 1)

One non-NSW regulator initially started experimentation with a small team working on small scale experiments by testing changes to existing forms and letters. These included simple changes to the language and design to increase reader comprehension and understanding. When these initial projects showed positive results, it gave senior staff confidence that the team was capable of having an impact. The team has since taken on larger and more complex projects, which often involve changes to whole processes or systems.

2. Developing internal capability

A number of regulators have focused on building internal staff capability in experimentation as a way to encourage more regulatory experimentation. The best examples of this involve dedicated teams focused on experimentation, but even having individual staff within departments or teams that are trained in experimentation can be beneficial. Where teams have been established they often have a variety of focuses, including specific behavioural insights teams, innovation teams or teams focusing on broader evaluations. Having committed internal resources assists with overcoming both practical and attitudinal barriers towards experimentation, as it helps to build dedicated expertise and skills. It also enables the regulator to improve its experimentation capabilities over time, as staff learn and develop.

[On setting up a dedicated evaluation unit] “We made it clear that this function can support the branch more widely - now we can ensure delivery against milestones etc and help other units with research and design.”
- NSW regulator 16

Case Study: Building an internal team (Transport for New South Wales)

To facilitate experimentation, the Transport for New South Wales (TfNSW) Freight Branch has established a dedicated research and policy unit within its policy team. The team is integrated with the agile policy team and consists of a number of experts specialising in research and evaluation methods, including experimentation. One interviewee referenced the importance of setting up the unit for demonstrating the commitment to evidence based practice within the sector.

This initiative emerged from a shared belief that true policy reform and development would be achieved if targeted research and evaluation was consistently carried out across the sector. Support from senior leadership was pivotal for setting up the unit. Senior leaders were encouraged by the wider benefits that the unit could provide to the entire branch and organisation in taking a consistently evidence-based approach. . The unit provides collateral benefits by helping other teams with research and design, sharing lessons learned and applying the findings of the research to inform the wider team, branch and agency.

Amongst TfNSW experimentation is encouraged, notwithstanding the fact that challenges and barriers are still in place.

In some cases, regulators that lacked internal capacity would bring in external support (typically external consultants or experimentation experts from other government departments), responsible for progressing, delivering and communicating evaluations. External teams had varying degrees of involvement, ranging from initial scoping of experiments to delivering an end-to-end experiment and evaluation. Drawing upon external expertise helps with capacity building of regulators and has wider collateral benefits such as enhancing experimentation credibility for stakeholders.

In some cases, non-NSW regulators initially brought in external support to conduct experiments, but as their internal capacity grew, they were able to take over more of the experimentation themselves.

“We do have some research ability within the department, but we don’t quite have the manpower... To have credibility with both industry and [stakeholders], it needs to be an established academic institution.”
- NSW regulator 3

3. Using online trials to conduct rapid, low-cost experiments

To combat resource and financial drain, some regulators referenced shifting towards online experiments. These experiments try to simulate some aspect of real world conditions in order to test out interventions. For example, online testing can be used to understand how consumers might make choices in certain markets, or how they might understand different communications (see the [Case Study](#) on the Australian Energy Regulator, below, for more details).

Online experiments come at a lower cost and can be conducted more rapidly than field trials. However, they are not always suitable for the policy change, and results will not necessarily generalise to real world environments. Where risk aversion is particularly prominent, NSW regulators could consider online experimentation as a low-risk way of starting the process of experimentation.

“The emphasis on field trials has shifted - now we do more online trials.”
- Non-NSW regulator 5

“Online trials are more agile and faster, but they do have limitations.”
- Non-NSW regulator 6

Example: Pivoting to online trials (Non-NSW regulator 6)

One non-NSW regulator in the energy sector previously conducted a number of field experiments, often with industry participants. However, one particular trial took almost two years, and by the time the results were in the market conditions had changed, and therefore the findings were not relevant. Hence, the experiment didn't deliver the benefits originally envisioned, as the evidence couldn't be used under the new market conditions. Since then the regulator has focused more on online experiments - whilst online experiments have limitations, they allow for rapid testing to gauge how consumers might respond in certain scenarios, or how consumers understand and react to information. This approach allows for more rapid insights to be delivered, and allows for broader recommendations that can be more easily actioned.

Institutional support

One of the strongest factors cited by successful experimenters was having strong institutional support. In most instances, regulators referenced support coming from senior leadership. Senior leaders who facilitated a cultural shift away from rigid problem solving and towards innovation led teams who are particularly receptive towards the concept of experimentation. Such senior leaders advocate for resources, investment and elevate regulators away from fear of failure and risk averse positions.

"The way that our Chair has engaged with, and championed this project, has been instrumental in us receiving funding for the project."
- Non-NSW regulator 12

In other cases, explicit commitments to experimentation are incorporated into strategic plans or public statements by ministers. This top-down support assists with overcoming risk aversion and gives a formal mandate for experimentation.

"The ministers endorsement ensures we have engagement and commitment ... In general it's given us greater confidence to implement this."
- NSW regulator 5

"Having [experimentation] publicly stated in our strategic plan helps senior leaders overcome risk"
- Non-NSW regulator 8

As noted in above, one of the best ways to build institutional support was to start small - demonstrating success early on a small scale was often cited as a key driver of support from senior leadership.

Case Study: Building strong institutional support (Australian Energy Regulator)

The Australian Energy Regulator (AER) has an explicit strategy in place to increase its use of evidence, research and experimentation. This has been driven by the senior leaders of the organisation and is reflected in a number of ways. Most notably, the AER's Strategic Plan includes an explicit focus on increasing experimentation at the AER, and a commitment to implementing regulatory sandboxes at the AER. This case study highlights the importance of strong institutional support for experimentation - the explicit commitment to experimentation in public facing documents such as the Strategic Plan gives working level staff confidence to undertake experiments, and enables partnerships with external experts. In addition, senior leadership support for experimentation is also key to ensuring that initiatives such as Regulatory Sandboxes are launched.

For example, to support the increased use of experimentation, the AER has entered into a research partnership with the Behavioural Economics Team of the Australian Government. A key part of this partnership has been conducting a number of research projects, including experiments, to understand consumer behaviour. The results of these experiments (as well as experiments conducted with other external agencies) have directly fed into the design of the [Better bills guideline](#) that the AER recently released.

In addition, the AER has also developed a process for regulatory sandboxing. In partnership with a number of other energy regulators, the AER has developed the [Energy Innovation Toolkit](#), which is designed to reduce barriers to innovation. The aim is to provide answers to common questions about energy regulation for new entrants - this includes an enquiry service, where businesses can seek informal guidance about what regulations might apply to them and what launch options are available. In the event that current regulations would prevent some business models from launching, innovators can apply to be a part of a regulatory sandboxing trial, where proof-of-concept trials can operate under relaxed regulatory settings, so that innovative business models and technologies can be tested in a real-world environment. Trial proponents are required to report regularly on trial progress and outcomes, so this evidence can inform future regulation and policy change.

Clear rationale for experimentation

1. Having a clear objective and scope

Among all research practices, having a clear objective for the research is crucial. Having a clear objective involves understanding how evidence will be used, and clearly outlining the benefits of conducting the experiment. This helps stakeholders to see the value of experimentation, or a given project. It can also help to drive experimentation since experiments are easier to justify if there is a clear, and well understood need for it. Where there is uncertainty around how evidence will be used, regulators are at risk of changing contexts and scope in the middle of a trial.

“ My advice to other organisations is to have a clear objective. “
- Non-NSW regulator 8

Notably, some regulators also highlighted the pitfalls of a lack of clarity in objectives and scope - one NSW regulator noted that an attempt at a broad-based, ‘whole-of-government’ regulatory sandbox suffered from a lack of clarity. It had a very broad scope, but there was a lack of understanding from businesses about what regulations could be relaxed, and what ideas could be a good fit for experimentation. Without clear guidance on what sorts of ideas could be brought forward, the sandbox struggled to enable effective experimentation.

Case Study: Testing different payment models with a clear objective (NSW Department of Education)

The NSW Department of Education (DoE) is, amongst other mandates, responsible for supporting individuals who want to gain skills through vocational education and training, and supporting the training providers that deliver these skills. Payments made to training providers are based on specific criteria or milestones that relate to a student’s progress through their course.

According to an interviewee, DoE had previously considered that advance or upfront payments to training providers would carry a possible risk of non-repayments. However, during the COVID-19 pandemic, it was clear that lockdowns and other interruptions to normal operation meant that many providers would not be able to meet the standard criteria for payments, and would have significant cash flow issues as a result. This provided an opportunity for DoE to develop and trial an advanced payment system to better support their providers. During this trial period, they found that the rate of non-repayments was considerably lower than previously feared. With this evidence, the advanced payment system has contributed to a “toolkit” of successful interventions and processes that DoE can apply in the future.

Notably, this trial explicitly focused on the potential drawbacks (non-repayments) as an outcome measure, rather than the benefits (increased support / better cash flow for training providers), which were taken as given. This highlights the fact that having a clear objective is key to conducting effective experimentation, and that the objective may not necessarily be about increasing benefits, but could also be about reducing negative outcomes.

2. Regulatory sandboxing

Establishing a regulatory sandbox is a key enabler to experimentation, amongst both NSW and non-NSW regulators. A regulatory sandbox involves encouraging businesses to propose ideas to trial new products or methods that would not normally be permitted under the existing regulatory regime - products that operate in a sandbox usually have more relaxed

regulatory standards, and businesses are required to seek approval from the regulator before commencing. As part of the process, businesses identify why the new products or methods are innovative, and the trials are typically restricted to a specific time and/or place. For example, regulations might require customers to be identified through certain physical documents - a sandbox participant might propose using new digital methods to identify a subset of customers for twelve months.

Sandboxing enables regulators to encourage innovation in the market whilst still ensuring risks are mitigated. Importantly, the existence of a regulatory sandbox enables significantly more experimentation, as it encourages businesses to propose ideas for experimentation - many of these ideas likely would not be tested in the absence of a sandbox.

Notably, a well structured sandbox also assists with clearly defining the scope of a project and what experimentation will cover. The very act of setting up a sandbox requires the regulator to think carefully about exactly when and where the trial will run, for how long, under what conditions, and how success will be measured. This forces a level of rigour and the setting of clear boundaries and evaluation methods, which ultimately leads to better experimentation (as mentioned above).

Moreover, having a formalised regulatory sandbox as part of the regulator's business as usual activities also means that approval processes for experimentation are not seen as atypical, and general awareness of the capacity to experiment is kept relatively front of mind.⁸ It can also circumvent any issues where traditional language around experiments might connote high costs or inconvenience, as discussed in the barriers to regulatory experimentation section.

“ Having clear scope of what is allowed in the sandbox is an enabler for experimentation. ”

– NSW regulator 2

Case study: Regulatory sandboxing (UK Financial Conduct Authority)

The Financial Conduct Authority (FCA) is a world leader in innovation and regulatory experimentation. Leading this work is the FCA Innovation Hub, which includes the Regulatory Sandbox and Innovation Pathways services. The Regulatory Sandbox provides a controlled testing environment for innovators to test their products and services with real consumers in a live environment. Innovation Pathways provides swift and tailored regulatory feedback to address the regulatory uncertainties from innovation. The main beneficiaries of the FCA's support are innovative firms, both incumbent and challenger firms. The FCA wants to understand the barriers to market entry, gain a deeper

⁸ Schwarz, Norbert, Herbert Bless, Fritz Strack, Gisela Klumpp, Helga Rittenauer-Schatka, and Annette Simons. 1991. “Ease of Retrieval as Information: Another Look at the Availability Heuristic.” *Journal of Personality and Social Psychology* 61:195–202. doi: [10.1037/0022-3514.61.2.195](https://doi.org/10.1037/0022-3514.61.2.195).

understanding of how new technology is being used in financial services, as well support firms who are promoting competition with positive outcomes for consumers.

Since its launch in 2014, both services have received collectively 2421 applications and supported 854 firms. Recent research from the Bank of International Settlement and Oxford University, evidenced that Regulatory Sandbox firms have 50% chance of receiving funding and in general receive 15% more funding. There is also empirical evidence of positive industry level spill-over of business models similar to those supported in the Regulatory Sandbox. This demonstrates the impact that sandboxes can have - in addition to enabling experimentation by encouraging firms to put forward innovative ideas, firms that go through the sandbox also see significant benefits.

Communication and framing of experimentation

“At the start we did a lot of advocacy ... now we have teams coming to us.”
- Non-NSW regulator 5

Building awareness is a key enabler for spreading positive attitudes toward experimentation. A range of interviewees, often with mature cultures of experimentation, told us that awareness building was a focus both internally (e.g. to build awareness in other departments), as well as externally (to encourage experimentation with industry or community stakeholders).

A positive attitudinal change includes framing risk differently. Participants spoke of a number of internal framing and communication options. One option we heard from interviewees was to emphasise the potential benefits of experimentation, instead of focusing on possible negative outcomes. Another framing option we heard was for scenarios where the positive benefits of a policy change were already well characterised, but the potential negative impacts were preventing implementation. In these cases, a focus on testing the assumptions about potential negative impacts emphasises a clear way forward - an experiment will either demonstrate that the negative impacts are real, and the policy change can be permanently tabled, or show that the negative impacts are overestimated, which provides a case for implementation.

In terms of external framing and communication, interviewees told us that when it came to reluctant stakeholders, it was helpful to ensure that stakeholders understood that the changes of experimentation are not permanent and can be reversed easily (i.e. that any changes were part of a “trial”). This also included emphasising the potential benefits of these changes, and being fully transparent about the purpose of the experiment.

“Everybody is interested and passionate... it’s about which changes will make a difference - attaching to that passion, that’s how you can convince others.”
- NSW regulator 11

Collaboration

1. Partnering with external entities

Partnership with external entities can overcome the barrier of wading through complexities of regulatory change. This is particularly impactful when considering experimentation across multiple regulatory domains - participants spoke about external collaboration in two key ways. Firstly, utilising networks with industry partners and stakeholders and drawing them into the process of co-designing solutions and boundaries for experimentation is important for successful experimentation. Obtaining their subject matter expertise assists with building influence and buy-in to the experimentation process, as well as making for a better process by taking into account previously unconsidered factors.

Secondly, working with regulators in other jurisdictions who have faced similar challenges or issues can help to advance experimentation by drawing on lessons already learned, and avoiding previous mistakes. Working with other regulators can also help to de-risk a process and give senior staff more confidence in the project, making it more likely that experimentation will be approved.

“Collaboration (especially with academia) helps to bring in expertise and resources... this makes more sense, it’s more economic than building the expertise in house.”
- Non-NSW regulator 6

Example: Collaborating with external regulators (Non-NSW regulator 12)

One non-NSW regulator reflected on the initial stages of setting up a regulatory sandbox, which was an entirely new function for the organisation. To support the set up, the non-NSW regulator sought advice and guidance from an external regulatory body from a different jurisdiction who had experience with sandboxes. The external regulator was able to provide advice on issues such as risks, mitigation strategies, funding arguments, and design considerations. Collaborating with other regulatory bodies was a key enabler for the non-NSW regulator, who are now in the process of rolling out their sandbox more widely and considering how it could be applied in other business contexts.

2. Transparency helps diffusion of knowledge

Interviewees referenced the benefits of working with, and learning from, other regulators. In some cases this was through formal partnerships - however, even without these partnerships, there are significant benefits to transparency in communication. Some

participants told us that agencies encouraging transparency between one another was often enough to permit knowledge sharing.⁹

“We took the best things out of the regulatory framework in other jurisdictions. “

- NSW regulator 13

There are clear benefits to increasing transparency around experimentation, such as helping others avoiding common mistakes and encouraging the adoption of best practices. However, there is a broader benefit that is more subtle - by publicising the fact that regulators are engaged in experimentation, it can help encourage other regulators to also engage in experimentation. This is because publicising experiments and their results can provide guidance on how to experiment and can make experimentation seem more commonplace and acceptable.

“Teams see each other doing regulatory experimentation and say 'Oh I didn't know you could do that!' “

- NSW regulator 13

⁹ Pittaway, L. A., & Robertson, M. (2004). Business-to-business networking and its impact on innovation: exploring the UK evidence.

4. Recommendations

Summary of findings

Our interviews identified a range of different approaches to regulatory experimentation, but all interviewees were generally positive about the value of regulatory experimentation. It can be challenging to conduct experiments, but the findings outlined in Section 3 provide a template of the key steps to follow, namely:

- **Build internal capacity**, particularly by starting small
- **Build institution support** by getting “quick wins” and building awareness
- **Have a clear rationale for experimentation** to keep experiments on track
- **Communicate and frame experiments** in a way that will encourage stakeholders to support experimentation
- **Collaborate** with external stakeholders and regulators for maximum impact

Which regulatory policy areas are best suited for experimentation?

To assist regulators in deciding when and how to conduct regulatory experimentation, we have identified some key factors that make some policy areas more or less suited to experimentation. Note that policy areas have common and differentiating characteristics. Rather than focus on specific policy areas (e.g. health, justice, transport), we focus on their characteristics so that these recommendations can be more broadly applied. Our interviews identified that the following factors made some areas more amenable to experimentation than others:

- **Where there is uncertainty about outcomes, or policy design:** In general, experimentation will provide the most value where there is uncertainty about what the policy will look like, and what impact the policy will have. If the outcomes are already known - or the policy direction has largely been decided - then there is less benefit to conducting regulatory experimentation.
- **Where outcomes can be measured, and measured fairly quickly:** To be effective, an experiment needs a clear outcome measure against which success or failure can be measured. If the outcomes cannot be measured easily, then an experiment is not likely to be of benefit. Similarly, in line with the issues discussed above, experiments that can show results relatively quickly can help to overcome some of the logistical and resource constraints that regulators commonly face. They can be easier to “sell” to senior staff and ministers, and are also more likely to have an impact on the policy process. For example, encouraging consumers to switch to a cheaper option in a regulated market is both an objective that can be easily measured, and can be done so relatively quickly. In contrast, improving consumers’ financial wellbeing is both difficult to measure, and cannot be done in a short period of time.
- **Where behaviours are one-off or isolated:** For regulators that focus on behaviour (either of consumers or some regulated entities), experimentation is most useful where the policy change seeks to influence a behaviour that is relatively isolated and straightforward (as opposed to more complex, multi-factor behaviours). For example,

encouraging compliance with a new reporting process is much more suited to experimentation than driving wholesale cultural change.

- **Where there is regulatory flexibility:** Some regulators noted that they were dealing with prescriptive legislation, with potential criminal penalties for non-compliance. This typically meant there was less room to experiment with different regulatory settings as they were prescribed by law, or certain processes needed to be followed in order for the legal process to be effective. In contrast, regimes that have more outcomes focused regulation, or that have broad policy directions that allow regulators to set specific details, are much more suited to experimentation.
- **Where there is little to no risk of tragic outcomes:** Some regulators highlighted the fact that if their work covered safety or physical outcomes, particularly of vulnerable populations such as children, then experimentation was less likely to be suitable. They noted that if a vulnerable person was to be injured or lose their life during an experiment, this could cause significant political and public backlash - even if the injury or loss of life was not directly connected to the experiment. Hence, at least initially, more low-risk settings are more appropriate for experimentation.

Practical steps that NSW agencies can take to encourage regulatory experimentation

While some regulatory agencies were able to overcome challenges to conducting regulatory experimentation in their policy area, this was not always the case. In particular, limitations with respect to resources, internal expertise, and the complexity of the regulatory environment mean that it can be challenging to engage in regulatory experimentation in a way that is scientifically rigorous. However, even less rigorous approaches can help to establish an experimental culture, which will in turn facilitate more rigorous experimentation in the future.

We have taken data from where regulatory agencies experienced success in conducting regulatory experimentation, or overcoming barriers, and consolidated this into practical steps for regulators. Our guidance is underpinned by behavioural evidence, drawing on a range of behavioural science principles to support agencies in conducting effective experimentation.

Get a foot in the door by starting small

The foot-in-the-door technique is a decades old procedure, which shows how agreeing to small requests will make it more likely that large requests are approved in the future.¹⁰ This effect is well validated, with hundreds of studies and meta-analyses supporting its efficacy across a range of different domains.

This can be applied to regulatory experimentation to overcome internal and external resistance to conducting regulatory experiments, which can happen for several reasons (see [Barriers to regulatory experimentation](#) above). However, there are usually ways that experiments can be adapted to turn them into “smaller requests”. For example, if stakeholders find the idea of an experiment too risky, this risk can be minimised by constraining its scope, or by turning it into an online trial. After demonstrating that these

¹⁰ Freedman, Jonathan L., and Scott C. Fraser. 1966. “Compliance without Pressure: The Foot-in-the-Door Technique.” *Journal of Personality and Social Psychology* 4:195–202.

smaller experiments work successfully, there will be a greater likelihood of having larger, longer, or more complicated experiments approved in the future.

Starting with shorter experiments can also overcome any bias that decision-makers might have for more immediate results. This is known as present bias,¹¹ and is likely to manifest when planned experiments might take a long time to deliver results (which also entails risk of the results becoming irrelevant). A number of interviews reported that a strategic approach that started with smaller, shorter, less risky experiments, was critical to building a more mature experimental culture.

Scope experiments properly with detail and implementation intentions

Create proper, detailed plans at the beginning of the process. Proper, detailed plans are an underestimated aspect of getting things done. Given the complexities of both regulatory processes and experimentation, taking a pragmatic and methodological approach to how an experiment can be achieved is particularly important. The evidence around planning is particularly relevant to break down the barriers identified in the qualitative interviews for two main reasons:

1. There is simple evidence that making a concrete plan helps individuals to follow through with a goal.¹² In doing this, it can reduce the perception of risk associated with experimentation since risk is often related to a lack of familiarity or an over emphasis on the unknown.
2. Creating detailed plans which have a well defined scope and goal improves understanding and comprehension of a particular task. Interviewees referenced that in some cases goals and projects had too much breadth which did not always align with regulatory priorities. Aligning goals and scope at a project's inception will aid regulators in understanding the experiment priorities and later rationalising the experiment, as well as guaranteeing that they stay in line with government priorities.

Be explicit with the details. Details and specificity are also well known to be more convincing. This is because details are perceived as more informed than high level information, which is more likely to be perceived as a guess.¹³ Applying this insight to regulatory experimentation can help convince stakeholders that a regulatory experiment is viable, and can be successfully executed. As a simplified example: rather than “We want to test a new product”, regulators should be more explicit, stating a plan to “Test the impact of the new product on consumers' well being in a specific retail environment, until the 4th of October”. The latter “plan” is more likely to be accomplished.¹⁴ A secondary benefit of this is the perception of regulation within communities. Interviewees referenced that community perceptions and expectations don't always align with the priorities of regulators. Increasing

¹¹ Ainslie, G., & Haendel, V. (1983). The motives of the will. *Etiologic aspects of alcohol and drug abuse*, 3, 119-140.

¹² Oettingen, G., Hönig, G., & Gollwitzer, P. M. (2002). Effective self-regulation of goal attainment. *International Journal of Educational Research*, 33, 705-732

¹³ Mason, Malia F., Alice J. Lee, Elizabeth A. Wiley, and Daniel R. Ames. 2013. “Precise Offers Are Potent Anchors: Conciliatory Counteroffers and Attributions of Knowledge in Negotiations.” *Journal of Experimental Social Psychology* 49(4):759–63.

¹⁴ Milkman, K. L., Beshears, J., Choi, J. J., Laibson, D. & Madrian, B. C. (2011). Using implementation intentions prompts to enhance influenza vaccination rates. *Proceedings of the National Academy of Sciences*, 108(26), 10415–10420.

transparency and engagement with communities and the public can be an effective way to break down misjudgments in a regulators role and onboard communities to experimentation.

Use implementation intention exercises. Another aspect of planning that can help with following through and convincing stakeholders is to use implementation intentions. Implementation intentions are self-regulation strategies that take the form of an “if-then” plan (e.g. if this situation arises, we will do this action), similar to a contingency plan. These plans might cover how to respond if conditions change (e.g., if attrition causes a lower sample size), or there are concerns raised by the community or stakeholders. This helps with risk mitigation, and demonstrates that potential issues have been well considered.

Reduce the perception of risk and fear of failure with messenger effects

Use senior or experienced experimenters and regulators to leverage support for experimentation. Who delivers a message can be just as important as what the message is - if we have greater trust in the messenger, we are more likely to trust the message.¹⁵ In this context, those with greater seniority or authority are the ideal candidates to provide messages about the benefit of experimentation. These could be senior members of the organisation, or authority figures like ministers. Interviewees often told us that having the right kind of top-down mandates was an enabler for experimentation. This is particularly true if support for experimentation is made public.

We are also more likely to listen to a messenger we relate to. Someone from a similar background, or who had similar life experiences, is more likely to persuade you to do something and lead to positive reactions. This means that experienced experimenters may also be good candidates to deliver messages. This is particularly true in instances where initial perceptions of the request may be negative. Having an experienced experimenter explain the reservations that they initially held regarding experimentation is a simple way of ensuring that a delivered message is relatable and resonates with an audience of regulators who are sharing experiences.

Carefully consider the framing around experimentation. With respect to the content of messages, apart from simply encouraging experimentation, there are some key messages that are likely to help. For example, messages that explicitly create an authorising environment for well designed and sensible experiments, like “If you think of a way this could be feasibly improved, we should try it”, can help reduce the sense of risk that comes with not knowing where boundaries are. Similarly, using framing that emphasises that there are no bad results can help to reduce the fear of failure. Finally, messages to regulatory agencies should focus on the potential benefits of untested approaches, and point out that these approaches could even save time and money in the long-run.

Draw attention to the risk associated with the current state of play, or the unevaluated condition. Both when seeking approvals for experimentation, or even just considering experimentation, interviewees informed us that the idea was dismissed on the basis of experimentation being a high risk tool. Drawing attention to the risk associated with the

¹⁵ Wilson, E.J., Sherrell, D.L. (1993). Source effects in communication and persuasion research: A meta-analysis of effect size. *Journal of the Academy of Marketing Science*, 21, 101.

current process alongside the risks associated with the proposed process is a suitable way to mitigate the power of our innate availability and confirmation bias. Specifically:

1. Availability bias - our tendency to judge the frequency and likelihood of an event to occur based on how easily an example of that event comes to mind.¹⁶ *If regulators are able to easily recall a situation where a regulatory change was made which led to undesirable outcomes based on risk, they will overestimate the likelihood of negative outcomes occurring as a result of any regulatory change.*
2. Confirmation bias - our tendency to seek out or evaluate information in a way that fits with our existing thinking and preconceptions.¹⁷ *If regulators hold a preconception that regulatory experimentation is risky, any mention of risk associated with an experiment will lead to regulator's 'confirming' their attitude that experimentation is always risky.*

One interviewee stated that regulatory changes are dismissed as they are compared to a state of zero risk. In reality, all regulation carries some degree of risk.

Draw attention to losses, rather than gains. We dislike loss more strongly than we value gains of an equal value, often referred to as loss aversion.¹⁸ In high-risk situations, individuals are encouraged to use loss-framed messages. In terms of regulation, this means framing messages around experimentation in a way that draws attention to the losses of not experimenting.

Use formalised processes to make experimentation front of mind

Simplify approval and experimental processes. Both regulatory processes and experimentation are complicated. This is heightened when we acknowledge that experimentation often does not come with an 'official' process or a handbook for how to conduct experiments. Further, interviewees referenced knowledge and capacity gaps, which naturally makes driving experimentation difficult. Simplifying the processes associated with getting experiments off the ground, thereby removing any associated friction costs¹⁹, is one way to increase uptake. Whilst there is often no scope to simplify experimentation itself, simplifying the regulatory processes around it, such as approval requirements, can be an effective way to reduce the friction costs and perceived burden around prioritising experimentation.

Dedicate channels to experimentation drive exposure, familiarity and communication around experimentation. Creating a dedicated channel for experiments to be approved will mean that when innovative ideas are generated, instead of being written off as too challenging, they can be directed to the appropriate place / process and, ideally, fast-tracked to approval. In addition, regulators may not always have time to consider ideas for experimentation - a dedicated channel or team ensures there are resources to consider an idea. Regulatory sandboxes are a good example of an "official" experimentation process - as they cleanly categorise the kinds of activities that happen, and are usually accompanied with

¹⁶ Tversky, A., & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science*, 185(4157), 1124-1131.

¹⁷ Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2, 175-220.

¹⁸ Tversky, A. & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453-458.

¹⁹ The Behavioural Insights Team (2014). The East Framework.

dedicated approval processes. However, even with the existence of a dedicated experimental channel or approval process, it must be advertised widely, and used frequently to make it the default. This takes advantage of a process known as the availability heuristic,²⁰ where people use mental shortcuts to make decisions, and will choose approaches that are front of mind. Once experimental ideas become more normalised, this process should be self-reinforcing.

Build a social norm with operational transparency

Social norms are the informal rules and understandings that govern the behaviour of a particular group or society. When other people engage in particular behaviours or processes, this can have a strong impact on others to act in the same way.

Encouraging networking between experimental and non-experimental organisations.

In this context, peer networks and communication are important as they offer an opportunity to find out what others are doing, and build a sense that it's business as usual for a regulatory organisation to engage in regulatory experimentation. There is good evidence that this kind of networking works in an organisation context, for example, a large meta-analysis has shown that networking between organisations plays a pivotal role in increasing innovation.²¹ Networks can also help to spread learnings from experiments, and share expertise in experimental design.

However, for these norms to be established, organisations first need to be aware of what others are doing. Widely advertising that your organisation does regulatory experiments, for example, by hosting formal or informal presentations at other organisations, or by publicising that information can help to build this awareness. This kind of publicising can also have a positive impact by attracting the types of skills and expertise needed for experimentation to the organisation.

Celebrate all experiments, regardless of whether they fail or succeed. Importantly, organisations should not be afraid of publicising failed experiments, or experiments without significant or impactful results. This withholding of negative results is a form of publication bias known as the “file drawer” problem, and it can lead to other regulatory organisations repeating failed experiments, or implementing policies that have already been tested and are known to fail. Ultimately, a mature culture of experimentation is one where information is shared freely, and regulatory agencies can learn from other organisations and jurisdictions. Moreover, by publicising experiments (especially failed ones), it creates a broader perception that experimentation is commonplace, and that not all experiments need to show a successful result in order to be useful.

Notably, there may be a role for a central agency, such as the Productivity Commission or the Treasury more broadly, in acting as a clearing house for experimentation. This could involve collecting results of experiments, and celebrating particularly well-designed experiments.

²⁰ Tversky, Amos, and Daniel Kahneman. 1973. “Availability: A Heuristic for Judging Frequency and Probability.” *Cognitive Psychology* 5(2):207–32.

²¹ Pittaway, L. A., & Robertson, M. (2004). Business-to-business networking and its impact on innovation: exploring the UK evidence.

Create an incentive system to encourage all stakeholders to experiment

One systems level approach to encourage experimentation is to develop a certified social signal or “stamp of approval” that indicates good practice, and which can be used as a performance metric for regulatory agencies or industry. That is, regulatory agencies can be encouraged to submit their experiments for approval as examples of good practices - this could even be incorporated into the agency’s performance metrics. One example of this is legislation which involves the accreditation of industry led voluntary product stewardship arrangements, known as the [Product Stewardship Voluntary Accreditation](#) (run by the Department of Climate Change, Energy, the Environment and Water). This scheme effectively incentivises industry to seek accreditation for managing their operations in a sustainable manner. Another example is the national [WHS Accreditation Scheme](#), run by the Federal Safety Commissioner, which checks for rigorous safety management systems for builders.

Having a similar government “stamp of approval” for engaging in, and publicising the results of their regulatory experimentation could create a similar incentive for regulatory agencies, or industry partners, to change their practices. Related to the previous point, the incentive system would not reward the outcome of the experiment, but would rather reward quality design and publication of results, regardless of success.

Potential regulatory experiments

Drawing on our interviews and the recommendations described above, we have outlined a number of types of experiments that could be conducted by regulatory authorities as a “first step” towards greater experimentation. The types of experiments described are deliberately more general, so as to be applicable to a wide range of regulators. However, we have included illustrative examples to demonstrate how other regulators have successfully applied similar concepts in their own experiments.

Testing communications

Any communication that targets a specific behaviour among a regulated population (or consumers) is an excellent first step for experimentation. The specific behaviour can vary - payment behaviours are a common area for experimentation, however the behaviour could be related to providing information, completing a task online, or making a change to existing practices. The key is that the behaviour should be reasonably specific, and able to be accurately measured. Regulators can experiment with different approaches to their communications to test what is more or less effective in a relatively constrained and easy to measure environment. For example, testing whether a more compliance focused and punitive message is more effective than a more positive and supportive message.

Example: Experimenting with communications (Non-NSW regulator 1)

Many non-NSW regulators noted that they first started experimenting through simple letters. For example, one regulator highlighted that they started experimenting with letters to businesses outlining their compliance obligations. Some of these letters were focused on providing guidance and support (for example, highlighting the most common mistakes made by businesses), whilst others focused more on the potential penalties that existed for

non-compliance. Ultimately, they found that providing guidance and support was more effective at achieving compliance outcomes - suggesting that the barrier to compliance was not one of willingness, but rather one of knowledge.

Use online trials

In some cases, it may not be possible to test the direct impact of communications, as they might be forwarded on to consumers by regulated entities (for example, schools might be asked to pass on communications to parents), and the behaviours might be difficult to directly measure. In this case, online experimentation can be an option - different versions of the communication can be tested to see which leads to the greatest level of understanding among consumers.

Example: Using online experiments to test communications (AER)

The AER has made extensive use of online experiments to test communications as part of informing regulations. These experiments typically involve developing two or more different mock energy bills that emphasise different aspects (such as energy comparison websites or cheaper energy plans). Participants – often the primary bill payer in their home – are randomised into different groups that see each letter. Participants will then be asked a series of questions, which can focus on comprehension (“Do you know how much you could save?”), preferences (“Do you like the way this information is presented?”), or intentions to behave a certain way (“Will you visit an energy provider comparison website?”). By comparing participant responses to the different letters, their impacts can be quantified, and the best performing letters taken ahead to further testing or as examples to guide the design of regulations.

Testing new programs

Any new program or pilot is an opportunity to experiment. This is particularly where a pilot or program is initially being rolled out in a small number of locations - different locations can have slightly different program designs, which can then be evaluated against each other. The differences between locations can then be evaluated, to identify whether they may have led to differences in outcomes. Once the most effective version of the program is identified at the end of the trial, it can then be rolled out to all sites.

Example: Experimenting with a pilot program (NSW regulator 11)

One NSW regulator is currently conducting a pilot program in the education sector, involving a small number of educational institutions. The program involves testing a new model of delivering education, including some new extra-curricular activities. The regulator is evaluating whether the new model could be an effective alternative - however, the different educational institutions are also conducting different extracurricular activities at their locations. Hence, in addition to the overall evaluation of the new model, there is additional experimentation through the different extracurricular activities that are being

conducted - these might lead to some locations having better results with the new model than others.

Streamlining or altering existing processes

Existing processes often have built up over time, and may have aspects that are not as relevant or necessary as they once were. Alternatively, they may have a number of steps that could be changed or streamlined. Building internal support to overhaul an entire process can be difficult - but it may be possible to change or streamline part of a process. Similarly, it may be easier to implement a new process for a subset of the regulated population initially, to test its effectiveness. A new or streamlined process might involve eliminating steps that are not necessary or as important, or requiring less information from those going through the process.

Example: Experimenting with existing processes (NSW regulator 5)

One NSW regulator oversees an application process that is also regulated by local councils. Currently, councils receive applications, and if they agree with the applications, pass them on to the regulator for approval. However, the regulator is guided by the decision of the council as to whether or not to approve the application. Hence, the regulator is trialling a process whereby 10% of applications can be approved by the council itself - these 10% will be monitored by the regulator to ensure there are no adverse outcomes. The remaining 90% will follow the existing process, but if this experiment is successful, there may be scope for all applications to follow the more streamlined approach.

Appendix A: Interview Discussion Guide

Section	Purpose of section/ research questions	Time
1. Introductions, background	<ul style="list-style-type: none"> • Provide background • Obtain informed consent 	5 mins
2. Understanding of regulatory experimentation	<ul style="list-style-type: none"> • What is regulatory experimentation in your organisation? • What is BAU when it comes to regulatory experimentation? • What methods and techniques are used? 	15 mins
3. Barriers to regulatory experimentation	<ul style="list-style-type: none"> • What are common barriers? • What are successful solutions or strategies to overcome these? 	12 mins
4. Enablers of regulatory experimentation	<ul style="list-style-type: none"> • What things could facilitate regulatory experimentation? 	12 mins
5. Value of regulatory experimentation	<ul style="list-style-type: none"> • In which areas does experimentation provide the most value and why? 	6 mins
6. Other thoughts / debrief	-	5 mins

Section	Time
1. Introductions, pleasantries, background	5 mins
<p>Hi, my name is [name]. I'm from the Behavioural Insights Team, an independent research organisation. Thank you for agreeing to participate in an interview.</p> <p>I just want to check that you had a chance to read over the information sheet we sent across. If not, here are a couple of housekeeping details:</p> <ul style="list-style-type: none"> • This interview may take up to an hour. • We want your honest thoughts. There are no right or wrong answers, and there isn't a specific response we are looking for in particular. If you are uncomfortable with any question, you do not need to answer it. You are also able to stop the interview at any time for any reason. • I will take some notes during the session. The notes will only be shared with the research team working on the project and the NSW Productivity Commission . All notes will be kept strictly confidential and stored on a password-protected drive. <p>We would like to record the interview just for transcription purposes. Is that okay?</p>	

Start recording

Please feel free to skip any question or stop the interview or recorder at any time.

Do you have any questions for me?

Firstly, can you tell me a bit about yourself (e.g. your role and responsibilities in the organisation)?

2. Understanding of regulatory experimentation

15 mins

I'm now going to ask you some questions about what regulatory experimentation looks like at your organisation

[So we're clear, when we refer to regulatory experimentation, we very broadly mean any approach where different things are tried to see what happens. Different organisations might have a more formal or informal process around this].

- Now you have a better idea of what we're trying to understand, what kinds of things does your organisation do that fit this description?
 - What were the changes?
 - How were these decided on?
 - Where do ideas come from?
 - What approvals are needed?
 - How was their effect measured?
 - What was measured?
 - How was this evaluated?
 - What happened afterward?
 - Would you consider this to be successful? [Why / Why not?]

[Ask for more examples if necessary]

- Is this type of approach common in your organisation?
 - Do others in your organisation support these approaches?
 - Are there dedicated teams that carry out regulatory experimentation?
- Has your approach to experimentation changed over time?
 - What drove these changes?
- What are the main pros and cons of experimentation, in your view?
- What do you think makes for a good approach to regulatory experimentation?

3. Barriers to regulatory experimentation

12 mins

Let's talk about some of the factors that prevent or make regulatory experimentation more difficult at your organisation, or that slow it down (either in general, or impact particular teams or particular topics).

Facilitator to share screen with a [slide](#) summarising the list of barriers below

- Which of the following types of barriers do you see as having the biggest impact on regulatory experimentation in your organisation? *(If the organisation does experiment, ask which of these previously had the biggest impact on experimentation)*
 - Awareness and knowledge – people don't know how to experiment, they forget, or they aren't aware of the available options [psychological capability]
 - *Lack of knowledge about how to experiment and how to interpret experimental results.*
 - *Lack of knowledge or effective tools to undertake good policy development.*
 - Opportunities – this could include resources and time, or prompts/reminders to experiment [physical opportunity]
 - *Resource constraints, where a desire to experiment and innovate is stymied by workload pressures and lack of time or funds.*
 - *Complex administrative requirements before experimentation can occur.*
 - *Organisational or structural barriers, including internal tools and templates.*
 - *Time pressure to respond to community concern.*
 - Social norms and role models – people don't see that experimentation is supported or role modelled by leaders, or they don't see other people doing it [social opportunity]
 - *Perception that policy experimentation is not valued.*
 - *Misaligned incentives, such as performance metrics that focus on levels of compliance or safety metrics, rather than encouraging experimentation and learning.*
 - Attitudes – people don't think that experimentation is needed or helpful, or they don't have someone to hold them accountable [reflective motivation]
 - Emotions and habits – people don't have positive experiences of experimentation, or other approaches for designing regulation are deeply ingrained habits [automatic motivation]
 - *Fear of reprisal if the experiment is unsuccessful.*
 - *Fear of reprisal if outcomes from evaluation are unpopular or controversial.*

After the participant has identified which of the barriers are the most influential in their organisation

I'd now like to talk through the ways that these barriers impact experimentation at your organisation, and if these have been resolved.

<ul style="list-style-type: none"> ● How does [barrier] impact experimentation at your organisation? (i.e. does it impact the ability to experiment at all, or the approach you take, or the way you evaluate changes?) <ul style="list-style-type: none"> ○ Has this barrier been addressed? <ul style="list-style-type: none"> ■ <i>If yes</i> - How was this overcome? ■ <i>If no</i> - How could this barrier be addressed? ● If you could change anything, what would you change to make it easier to experiment? 	
<p>4. Enablers of regulatory experimentation</p>	<p>12 mins</p>
<p>I'd now like to ask you about some of the factors that make regulatory experimentation easier or faster at your organisation</p> <ul style="list-style-type: none"> ● What has helped facilitate experimentation in your organisation? <ul style="list-style-type: none"> ○ <i>Prompt with the same categories as the barriers question</i> ● Has your organisation made any changes in the past that have improved experimentation? ● Do you know of any other organisations that are particularly good at regulatory experimentation? <ul style="list-style-type: none"> ○ What factors do you think enable them to be good at experimentation? ● What knowledge and skills do you think that people need in order to conduct regulatory experiments? ● What makes it faster or easier to evaluate the impact of experimentation? ● What advice would you give to other organisations trying to incorporate more experimentation? 	
<p>5. Value of regulatory experimentation</p>	<p>6 mins</p>
<p>I'd now like to ask you about some of the factors that you think make experimentation more or less valuable in different areas of regulation</p> <ul style="list-style-type: none"> ● Thinking about regulatory changes you have been involved with in the past, or are currently involved with, in which of these would an experimental approach have improved the regulatory outcomes? Why? ● In which of these would an experimental approach not have improved the regulatory outcomes? Why? ● What factors do you think make some areas more suitable for experimentation than others? 	
<p>6. Other issues</p>	<p>5 mins</p>
<ul style="list-style-type: none"> ● Is there anything else that you'd like to mention today that might be relevant to our conversation? 	

- **Is there anyone else from another organisation that you think would be useful for us to speak to?**
- **Do you have any recommendations for organisations for us to include as a case study?**

Awareness and knowledge	Opportunities	Social norms and role models	Attitudes	Emotions and habits
People don't know how to experiment, they forget, or they aren't aware of the available option	People don't have the the resources and/or time to experiment, or the environment prompts them to use other approaches for designing regulation	People don't see that experimentation is supported or role modelled by leaders, or they don't see other people doing it, or there is a lack of political will	People don't think that experimentation is needed or helpful, or they don't have someone to hold them accountable	People don't have positive experiences of experimentation, or other approaches for designing regulation are deeply ingrained habits