Evidence Informed Regulatory Practice Quick Guide

REGULATORY PRACTICE ESSENTIALS

At a glance

Regulators use evidence to understand what's happening in the regulatory system, anticipate what might happen next and make better decisions.

Evidence is used to inform regulatory approaches, policies and compliance monitoring.

What evidence to use?

Empirical methods: these are methods used to find out, test, explore and seek answers to a problem or issue. Methods used in regulatory practice include intelligence, evaluation, data collection and analysis, research and testing.

Regulators use empirical methods along with professional judgement and stakeholder perspectives to understand what's happening in the regulatory system and anticipate what might happen next. When combined, these lead to approaches, policies and compliance activities that are effective, fair and responsive.

Why use evidence?

Regulators use evidence to inform their practice at all levels: from everyday 'on the spot' decisions, to planning services, policy and direction, and at a system level to improve performance.

Examples of evidence used to inform regulatory practice

From being aware of risks in the financial system, to international trade, driver licensing, protecting our biosecurity and managing the border, regulators use empirical methods to inform their regulatory practice.

What evidence to use?

Evidence has different meanings in regulatory practice. It can be gathered during regulatory work, such as an investigation, to prove or disprove something.

Evidence can also be used to inform regulatory approaches, policies and compliance monitoring. Empirical methods are types of evidence used for this purpose. These methods are used to find out, test, explore and seek answers to a problem or issue. Methods used in regulatory practice include intelligence, evaluation, data collection and analysis, research and testing.

Empirical methods

Empirical methods reduce ambiguity and uncertainty by focussing on facts, data and information. When done well they give regulators reliable information.

Regulators have a broad range of empirical methods they can use. People with expertise in intelligence, data, evaluation, research, economics and behavioural science select the empirical method that best fits the context and purpose. They ensure their work meets the standards needed for credible research. This means collecting and storing data and information that is accurate, relevant, lawful and considers cultural differences. It means being transparent about the information they collect. They aim to base the outcomes on multiple sources rather than a single source that only paints part of the picture.

The methods overlap with each other, for example, data is often used in intelligence and evaluation.

A. Intelligence

Intelligence looks at past and present information to help regulators understand what's happening, where risks are emerging and where they may need to intervene. It provides insights on the risk of harm and outcomes of actual or potential non-compliance.

Intelligence teams gather information from many sources such as data collected during regulatory work, survey, interviews and research. They use structured methods to create meaning from the information. They draw on this to make predictions on whether an activity may occur in the future and the likelihood of it happening. They identify trends, patterns and new developments that impact regulated parties' willingness to comply. For example, they ask questions such as "how likely would a business reduce health and safety compliance in an economic downturn? Would this lead to harm?" Intelligence teams provide objective insights and take care on how to interpret the findings so they aren't taken out of context.

Sharing intelligence allows peer-to-peer learning about emerging risks and trends especially where multiple regulators are responsible for a system or industry.

B. Evaluation

Evaluation is used to assess the quality, value and impact of an activity. An activity may be a project, policy or an initiative. This method gives insights on whether an activity is working as intended, whether the design is working, what is working well and why.

There are two main outcomes:

i. **Improve current activities:** to understand what works, for who and when, and create evidence to inform future activities.
ii. **Accountability:** to demonstrate the effectiveness of an activity that withstands scrutiny.

Measurement criteria are developed when designing the activity so that people doing regulatory work know what information to collect. Information collected before the activity starts can be compared with the information collected during

or after an activity. Monitoring and evaluation are linked – an evaluation relies on monitoring data and information.

An evaluation report contains conclusions on whether the activity was effective or not and why. This is the difference between evaluation and other empirical methods.

An evaluation report also lays out recommendations about future activities.

C. Data collection and analysis

Data collection and analysis is used to monitor the performance of the regulatory system and identify areas for improvement.

Regulators gather and store data in the course of their work. They have policies to ensure they comply with the law and maintain standards of consistency, accuracy and privacy when collecting and storing data. Data needs to be relevant, reliable, up to date and timely. It's important to be clear about the purpose for collecting data and identify any gaps or weaknesses and ways to overcome these.

Data can be either quantitative or qualitative.

Quantitative data is about numbers, such as the number of licence classes or demographic data about driver licence holders. This data should be collected efficiently so it's not a burden on regulated parties.

Qualitative data is about words, opinions or descriptions. It doesn't usually involve numbers and includes feedback from surveys, interviews, or focus groups.

Analysis is the process of giving meaning and purpose to the data. This means recognising patterns or themes in the data, filtering, examining it in detail or re-organising it in ways that give understanding.

D. Research and testing

Research is a planned study aimed at discovering new knowledge, understanding something or solving problems. It can be desktop research used in everyday regulatory work such as searching online registries, sourcing data and websites. It can be a large research project to study something in detail such as overseas regulatory practice, experiments, surveys, literature reviews and analysis. It can be in-person observations of regulators and regulated parties working together.

Behavioural science is a branch of psychology used by regulators to understand what drives people to behave in certain ways. They do experiments and use these insights to develop policy and tools that lead to better outcomes. Methods such as fieldwork, data analysis and experiments are used to gain behavioural insights. Once they understand ways people think and behave in certain situations, behavioural scientists can develop new tools or policies that make compliance easier. They test these in field trials and measure the outcomes.

Economic models and empirical methods are used to determine whether regulation is the best way to address an issue and what impact a regulation might have. Economists use these models and methods to address questions such as, how might this law affect factors that benefit the economy the most, such as business competition, investment or innovation? What are the costs and benefits of this law? Did the previous law work in a way that was ineffectual and did it have unintended consequences? Economic models and methods can address these questions by predicting how people, businesses and markets will respond to a proposed law, or by evaluating the impact of existing laws. They also provide a way to balance trade-offs. For example, the benefits of improved health and safety compared with compliance costs and reduced flexibility for businesses to propose innovative solutions.

Using evidence to inform regulatory practice

Regulators use empirical methods along with professional judgement and stakeholder perspectives to understand what's happening in the regulatory system and anticipate what might happen next based on reliable insights. When combined, these lead to approaches, policies and compliance activities that are effective, fair and responsive.

Professional judgement

People doing regulatory work use professional judgement to make decisions, solve problems or interpret information. They draw on knowledge, skills and mindsets learned through formal training, experience and expertise gained on the job. Knowledge refers to theory and practical understanding of regulatory work. Skills needed are thinking and organising skills such as critical thinking, logical reasoning, attention to detail and planning. People doing regulatory work also need strong interpersonal skills. Mindsets that support professional judgement include being comfortable with ambiguity, knowing when to decide and when to stay open to new information. They need empathy and intuition to understand how people make decisions.

Professional judgement is used when interpreting conclusions or recommendations of empirical methods. For example, decision makers will consider the context or wider environment to assess if a recommendation is feasible.

Critical thinking and logical reasoning are important skills in regulatory work. This means breaking down, organising and evaluating data and information. It includes questioning assumptions and making logical conclusions. Behavioural science gives insights into the way people make decisions. Knowing about these helps people to find ways to overcome them. Examples are:

i. **Anchoring:** the tendency to rely heavily on the first piece of information offered when making decisions.

ii. **Confirmation bias:** the tendency to look for and favour information that confirms your beliefs while ignoring or putting less value on information that conflicts with your beliefs.

iii. **Availability heuristic:** the mistake your brain makes by assuming that examples which come to mind easily are the most important.

Engaging with Stakeholders

Regulators engage with people to hear their views on whether the regulatory system is working as intended and where improvements can be made. Empirical methods can include information gained in consultation feedback or fieldwork with stakeholders (see Engaging as a Regulator – Quick guide).

Why use evidence?

Regulators use evidence:

In their everyday work: Evidence helps regulators make quick, practical decisions in their day-to-day work. For example, using evidence and information to make 'on the spot' decisions and respond in a way that's proportionate to the situation.

Examples include:

- using risk assessments to decide whether, and how, to intervene.
- carrying out a threat and impact assessment to focus attention on a business or sector.
- looking at recent compliance activity to decide whether to escalate, follow up or close an issue.

When planning: Evidence helps regulators understand patterns, behaviours, and trends that influence outcomes over time. This helps them to set direction, guide policy and prioritise their efforts. Examples include:

- using research to understand why some groups comply and others don't.
- monitoring changes in the environment or market that could affect risk.
- identifying priority areas based on the likelihood or severity of harm.

At a system level: Evidence supports regulatory stewardship, helping regulators understand how well the regulatory system is working and where improvements are needed. They use evidence to improve system performance, fairness and resilience. Examples include:

- analysing the length of time to issue a licence.
- tracking the costs of compliance for regulated parties.
- reviewing the law to ensure it remains fit for purpose.

Examples of evidence used to inform regulatory practice

Below are some examples of ways that evidence has been used to inform regulatory practice.

Intelligence: Identifying risk of financial stability

A stable financial system is key to a productive and sustainable economy. It ensures prosperity and wellbeing of all New Zealanders.

The Reserve Bank of New Zealand Te Pūtea Matua (RBNZ) is responsible for protecting our financial system. Risks to the financial system can arise from overseas markets, within New Zealand, vulnerability due to the size of our market and emerging risks such as technology disruptions, climate change and cybercrime. The RBNZ continuously monitor the system to identify and assess risks and protect and promote financial stability.

To do this, RBNZ uses a range of intelligence tools to anticipate and prepare for new or evolving risks. Some examples include:

- **Thematic reviews:** These reviews are based on in-depth desktop analysis, on-site visits and interviews on topics such as risk, governance and compliance of banks and insurers. Insights gained lead to a range of outcomes including recommendations for improvements, future policy development, supervision or remedial action.
- **Stress tests:** What impact would an economic downturn have on a bank? How resilient are banks to funding markets under pressure? The RBNZ uses these scenarios to assess the resilience of banks when put under severe pressure. This leads to improved understanding of the impact of risks and the resilience of banks. Stress tests also help financial institutions understand risks and assess their risk management frameworks.
- **Financial Stability Report:** Every six months the RBNZ assesses risks to the New Zealand financial system based on a range of financial stability indicators. The report gives an in-depth coverage of topics relevant to financial stability.

The RBNZ uses intelligence to make decisions on adjusting monetary policy settings, early intervention measures and issuing guidance to financial institutions before a crisis occurs.

Evaluation: Building market access and reducing compliance costs in international trade

Certain products must meet safety standards before they can be sold in New Zealand. Products such as medical devices, veterinary products, electrical and electronic products are tested and certified to ensure they meet safety standards. These standards

exist in most international countries; however, the standards vary.

This creates problems when trading these products internationally. For example, testing and approving products in the country of origin and repeating this in the country where they are imported would be cumbersome. That's where mutual recognition agreements and arrangements (MRAs) come in. MRAs confirm that the products tested and certified in one country can be certified to the standards of the other country. MRAs aim to make trade easier by reducing time and costs of approval for products to be sold.

In 2018, the Ministry of Business, Innovation and Employment Hīkina Whakatutuki (MBIE) completed an evaluation of MRAs: do businesses find them effective? Do they achieve what they set out to do? This evaluation was a qualitative analysis using interviews and a survey.

They found that, except for some specific products and markets, business awareness and uptake of MRAs appeared to be low. Instead, many businesses used accredited testing facilities outside the scope of an MRA or 'self-declared' their product met the required standards. MBIE recommended a cost-benefit analysis be completed before any new MRAs were signed and that other, simpler options be considered as part of the analysis. They recommended making information on existing MRAs more available to the business sector.

Data and analysis: Fruit fly surveillance programme

The fruit fly surveillance programme is run by the Ministry of Primary Industries Manatū Ahu Matua (MPI). The aim of the programme is to detect fruit flies early before they get established in New Zealand. This helps to protect New Zealand's horticulture export industry. The programme is designed by surveillance specialists and is one of the measures that prevent and manage fruit flies in New Zealand.

The surveillance cycle is a systematic process that includes data collection and collation, analysis and interpretation followed by timely communication. Risk modelling at the start of each surveillance cycle analyses fruit flies detected in previous years, seasonal changes and potential entry points for fruit flies.

MPI set up approximately 7,800 traps to detect fruit flies each year. Traps are placed in selected trees and arranged in a grid pattern designed to cover high risk areas identified in risk modelling. Trappers inspect these fortnightly from September to June each year. They collect suspected fruit flies and send them to the laboratory for checking.

The data is analysed to show the areas of highest risk by comparing the total number of suspect flies against previous years. Traps are also placed in regions where fruit flies are less likely to be found. This helps MPI to compare high and low risk areas.

Auditors check the performance of lures and trappers. The collected data is analysed to ensure quality and consistency within the surveillance programme.

MPI sets performance targets for the programme and measures their success annually.

Research and testing: Do novice driver training programmes reduce crashes?

Young drivers aged 16–24 are over-represented in serious and fatal crashes in New Zealand. The reasons for this are complex: both inexperience and age are contributing factors. Advanced training courses aim to improve driver vehicle handling and hazard perception. In New Zealand, completing an approved course allows drivers to apply for their full licence 3 to 12 months earlier than other drivers.

The New Zealand Transport Agency Waka Kotahi (NZTA) wanted to understand the impact of these courses, along with gaining an earlier licence. They

commissioned an evaluation in 2019. It found no significant difference in crash rates between trained and untrained drivers overall.

However, crash rates were notably lower for trained drivers who did not take up the time discount to get licensed earlier. This suggests that early licensing may offset the safety gained from training.

In 2021, NZTA asked researchers at the University of Otago to review international research on advanced driver training. The researchers conducted a literature review of 82 studies from around the world. They found that driver training programmes that result in earlier licenses tend to increase crash risk. In contrast, training that does not shorten the licensing process, shows more promise. This was more noticeable when the training focused on hazard perception and was tailored to driver motivation. Based on these findings, the researchers recommended removing the early license incentive from New Zealand's driver training scheme. They provided guidance on designing more effective training that targets specific skills and behaviours.

Professional judgement – New Zealand Customs officers

The New Zealand Customs Service supports trade and travel, collects revenue and enforces the law at our border. As New Zealand's gatekeepers they use intelligence to target risk. They have the power to check containers, vessels, baggage, mail, people or property – whether entering or leaving the country.

Customs officers use screening tools and techniques to identify prohibited and restricted goods such as illegal weapons, objectionable material or drugs entering or leaving New Zealand. At the border they select travellers for questioning, audit, searches and inspections based upon risk assessment.

Customs officers use their professional judgement as an integral part of their assessment. They develop these skills through training and experience. They look for body language, verbal signals or unusual signs to decide when further searching or testing is needed. Some examples are a bag that doesn't feel right, clothing that feels stiff or a container that looks suspicious. Officers stay alert to these signs and follow up to look for evidence. In these examples, officers x-rayed the bag to reveal drugs in the lining, tested the clothing to find it had been soaked in liquid methamphetamine and searched the container and found hidden drugs.

As they develop these skills it's important for Customs officers to learn and reflect on situations where they found illegal items and to dig deeper when things don't add up. They need to find a balance between trusting their professional judgement while being aware of personal bias or stereotypes.

What you can do to learn more about how evidence is used to inform regulatory practice

- Talk to your manager about situations where professional judgement is needed.
- Meet with teams that carry out empirical methods in your organisation. Learn about what they do.
- Explore examples of evidence used in regulatory practice within your organisation. What empirical methods were used? When is professional judgement needed? How is engagement used to inform decisions? What insights were gained?
- Reflect on your work – what areas of your work would benefit from better evidence? How does your work contribute to the methods used?

Examples of evidence used to inform regulatory practice

↗ Financial stability. Reserve Bank of New Zealand Te Pūtea Matua (2025)

↗ Evaluation of conformity assessment mutual recognition of agreements and arrangements. Ministry of Business, Innovation and Employment Hīkina Whakatutuki (Apr 2018)

↗ Surveillance programmes for pests and diseases NZ Government. Ministry for Primary Industries Manatū Ahua Matua (2024)

↗ Research Report 677 The effectiveness of advanced driver training. New Zealand Transport Agency Waka Kotahi (Dec 2021)

↗ Media Releases. New Zealand Customs Service Te Mana Ārai o Aotearoa (2024)

Resources

↗ The Paul and Henry Show, Episode 7: The importance of judgement. Ministry for Regulation Te Manatū Waeture (Sep 2023) (YouTube, 18 mins)

↗ Anticipatory and intelligence led regulation. The essence of regulation (Apr 2021) (YouTube, 8 mins)

↗ Panel Discussion: Data Driven Regulation. Ministry for Regulation Te Manatū Waeture (Apr 2023) (YouTube, 38 mins)

↗ Behavioural insights. Department of the Prime Minister and Cabinet Te Tari o te Pirimia me to Komiti Matua (Jul 2024)

↗ Making sense of evidence: A guide to using evidence in policy. Department of the Prime Minister and Cabinet Te Tari o te Pirimia me to Komiti Matua (May 2022)

↗ What is critical thinking? Student Academic Success. Monash Univsity (Jun 2024)

Got questions? Get in touch

Email: systemcapability@regulation.govt.nz

Website: www.regulation.govt.nz