

# Performance, progress and attribution stories: The roles of intervention logic and contribution analysis

**Paul Killerby<sup>1</sup>**

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## Summary

Every territorial authority in New Zealand is obliged under the Local Government Act 2002 to tell its own agency performance story as well as the progress story of its local community. Auditor expectations are that councils will also describe and monitor the linkages between council performance and community progress (i.e. the attribution story). This paper brings together guidance from a range of sources on how to tell the dual council-community performance story. It emphasises the need for robust information with both depth and breadth. Key lessons include presenting both sides of the performance story (from outputs to outcomes and outcomes to outputs), and adopting both a strategic thinking and evaluative approach to evidence-informed decision-making.

## Introduction

Provisions in the Local Government Act 2002 (LGA) oblige councils to identify, monitor and promote local community aspirations as part of a planning and resource allocation framework. This is in addition to councils' traditional annual reporting of agency performance. Thought is currently being given to how annual reports and community outcome reports fit together, and the potential role of community outcome reports as a basis for more evidence-informed planning and decision-making.

This paper describes the roles of intervention logic and contribution analysis in telling the council-community performance story.<sup>2</sup> It begins with an overview of the managing for outcomes (MfO) framework in New Zealand and how this is manifested at the local government level. It then discusses intervention logic and contribution analysis and their roles in telling the joint council-community performance story, or attribution story. The paper concludes with a discussion of the role of attribution story-telling in decision-making processes.

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<sup>1</sup> Paul Killerby is Strategic Policy Manager, South Waikato District Council. The author acknowledges contributions to this paper from Gavin Thomas (International Global Change Institute), Cameron Cowan (Rotorua District Council), David Hammond (South Waikato District Council) and Beat Huser (Environment Waikato). Any errors or omissions remain the responsibility of the author. E-mail address: paulkillerby@gmail.com.

<sup>2</sup> This paper was prepared in response to a request from the Waikato regional group of local government strategic planners called MARCO (Monitoring and Reporting Community Outcomes) to identify issues and solutions relating to the "attribution problem". The intention of this paper is to stimulate thinking and debate, and to bring together key references including web links.

## Managing for Outcomes

According to Gray (2005), public sector reform in New Zealand has shifted from efficient output production based on theories of new public management, to a broader focus on managing for outcomes. This follows a trend that began in the early 1990s amongst OECD Member countries to improve the quality of public service performance (Ruffner, 2002). New Zealand's MfO initiative was formally agreed by the Government in December 2001 and has been progressively implemented across the public service (Controller and Auditor General, 2006).

The purpose of the MfO performance framework is to help fill gaps not addressed by individual agencies and improve overall public sector accountability. It involves clear defining desired results, implementing plans based upon these results and learning about what works in the process (State Services Commission website, accessed 7 May 2006). Ongoing work to support MfO at the national level includes identification of the vital few outcomes for each central government agency, exploring opportunities for enhanced sector-based coordination, and ensuring that the governance design of the public sector promotes coordination as appropriate. Considerable supporting information has been prepared as part of the roll-out of the MfO framework, including results from the Pathfinder Project (<http://io.ssc.govt.nz/pathfinder>) and the Managing for Outcomes Programme Office. This guidance is equally valid at a local government level.

The community outcomes provisions of the LGA are local government's equivalent of the MfO initiative (Killerby, 2006). Sections 91 and 92 of the LGA introduce obligations for territorial authorities to identify, monitor and report on progress towards community outcomes identified through public consultation processes. Schedule 10 of the LGA requires territorial authorities to describe through their long term plans how their own activities will contribute to furthering these community outcomes.

In order for community outcomes processes to make a meaningful difference to councils' decision-making processes, there needs to be a clear understanding of the causal links from council performance to community results (i.e. attribution). Beanland and Huser (1999, p. 20) recommend developing a systems model that considers "the important components of the issue, illustrating cause-effect relationships, as well as taking account of the universal themes and the linkages between issues. This step is important as it facilitates an ecosystem approach to identifying information requirements and the development of indicators by helping to ensure all aspects of an issue are considered. The model can identify linkages and overlaps between issues and hence common information requirements."<sup>3</sup>

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<sup>3</sup> Kouwenhoven, Mason, Ericksen and Crawford (2005) are addressing the attribution problem by trialling a systems modelling package called RAP (Rapid Assessment Programme). Used as part of a strategic thinking exercise with council planners and environmental experts, this tool can potentially be used to develop a robust "scorecard" linking projects and posited outcomes. Results from initial pilots are yet to be comprehensively evaluated.

In practice, attempts to attribute changes in community well-being to changes in levels of service need to be considered alongside other proximate, remote, intervening, superceding and concurrent causes (refer Appendix 1). A key first step in telling the attribution story is therefore to define a robust intervention logic model linking outputs to outcomes.

## **Intervention Logic**

The Pathfinder Project (2003) is one of many sources of guidance on developing intervention logic models that link inputs to outputs to intermediate outcomes and ultimate outcomes. In brief (*ibid.*, p 1): “Intervention logic starts with a clear definition of an outcome and uses logic and evidence to link outcome goals to departmental outputs. A well developed intervention logic helps justify the choice of outputs and to improve outcomes on the basis of evidence of effectiveness. When evaluative information can be produced on the outputs, coverage, near-term results and impacts, intervention logic can be used to prioritise outputs so as to maximise departmental outcomes, and confirm outputs delivered by the department work as planned.”

Intervention logic involves making robust assumptions to define a results chain. The intention is that a well defined results chain can be used as the basis for a cascading set of results targets. In practice, intervention logic is relatively easy to develop for agencies with tightly specified outcomes but difficult for agencies contributing to multiple outcomes (Webber, 2004). Regardless of the level of challenge, the Office of the Auditor General (OAG) is giving a strong message that it wishes to see improved attribution of outcomes to outputs as part of central government agencies’ performance reporting.

A parallel push by the OAG appears to be in the early stages with regard to territorial authorities’ long term council community plans (LTCCPs). At present the intervention logic between most councils’ service levels and their communities’ outcomes have been identified only at a narrative level. The complexity of relationships between multiple levels of service and multiple community outcomes represents a substantial challenge in terms of developing a comprehensive logic model. In many cases the causal links between outputs and outcomes are unknown or ill-defined. There is also a lack of capacity for this type of analysis in local government, especially in smaller councils.

The Pathfinder Project recommends a blended intervention logic that combines a narrative description with a structured model (refer Table 1). This means not only describing in words the assumed links between agency activities and expected outcomes, but also using flow diagrams, matrices of indicators, risks and resource requirements, and disciplined logic and assumption testing. “Once a stable intervention logic has been produced, assumptions need to be tested, and a performance monitoring regime put in place to *prove* it works as it was designed to” (Pathfinder Project, 2003, emphasis added).

**Table 1: A Simplified Intervention Logic Matrix**

1 Outcomes Hierarchy	2 Success Criteria	3 Risk factors within control	4 Risk factors outside control	5 Activities and resources	6 Performance indicators
Outcome(s) End					
Intermediate Outcomes					
Near-term Results					
Coverage					
Output					

Source: Pathfinder Project (2003)

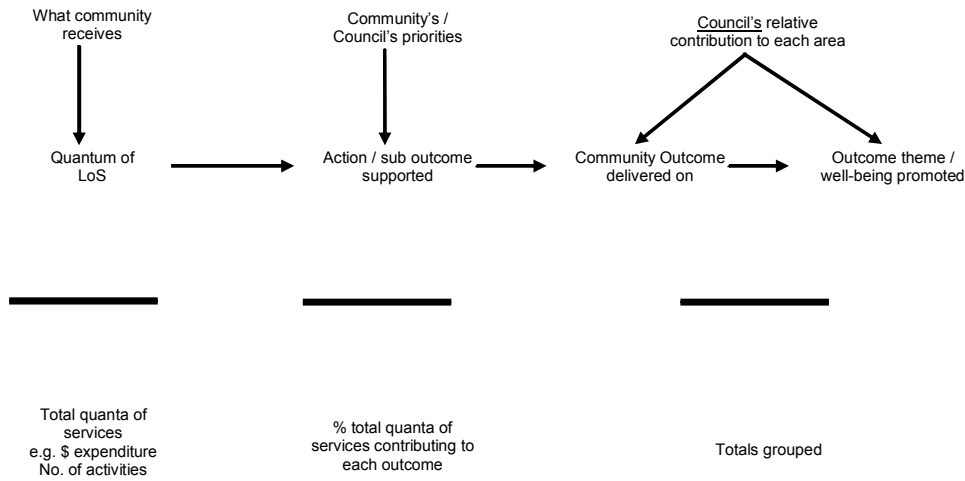
Various software solutions are available to help councils gain an integrated overview of result chains in their organisation.<sup>4</sup> These allow community outcomes monitoring results to be recorded, monitored and reported in an integrated system as input and output information. Technology solutions have the potential to include a ‘balanced scorecard’ reporting function that summarises complex information for ease of interpretation.<sup>5</sup>

While most territorial authorities are still at a narrative level in terms of linking outputs to outcomes, there have been some attempts to introduce a more quantitative element. The Rotorua District Council Ten Year Plan 2006-2016 (p 48) includes an analysis in which quanta of service are estimated from each of Council’s significant activities to each of the community’s high level outcomes (refer Figure 1). This analysis involved service level managers making assumptions based on best available information. The approach has yet to be fully evaluated in terms of its value to Council’s decision-making.

<sup>4</sup> Software packages by Origen, TechnologyOne and other suppliers are currently being implemented in councils throughout New Zealand.

<sup>5</sup> The term ‘balanced scorecard’ refers to an integrated strategic framework using linked performance measures which serves as a combined measurement, strategic management and communication tool.

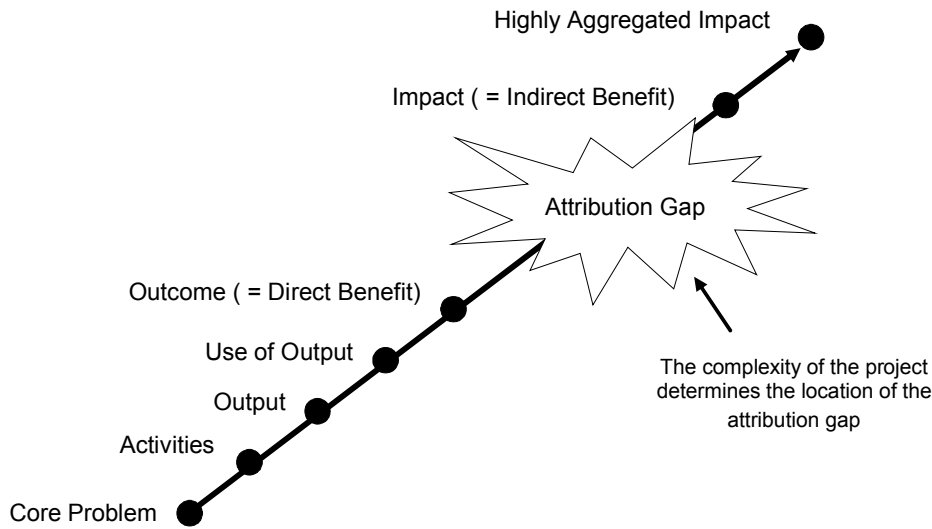
**Figure 1: A Model for Quantifying Attribution**



Source: Personal communication, Rotorua District Council, 4 May 2006

Spatz (2005) argues that the complexity of the specific project under consideration determines the location of the “attribution gap” (refer Figure 2). Part of his solution to the attribution problem is to recommend two levels of monitoring, firstly up to the attribution gap (i.e. to the extent there is a reasonable level of certainty about attribution), and then beyond the attribution gap by giving a plausible description of possible contributions. While the latter type of reporting may help understand the impact of an intervention, it gives little guidance for understanding the process of change. Spatz therefore also advises collecting additional information to shift the attribution gap upwards.

**Figure 2: The Results-Chain Model**



Source: Spatz (2005)

Baehler (2006) warns against “heroic leaps of logic” in intervention logic models. She emphasises the need to be transparent about assumptions and risks, for example by including this information within a path diagram or matrix format. She also encourages policy planners to apply strategic thinking about paths to outcomes rather than developing intervention logic models to justify the status quo.

## **Contribution Analysis**

Attribution is most relevantly addressed at an intervention or project level. However, community well-being is affected by a vast range of pressures, some of which require a whole-of-community response to be effective (MARCO, 2005). This creates a challenge for communities wishing to set community outcomes targets since no single agency or intervention can be held accountable for achieving communal targets. Many factors are likely to influence and contribute to the achievement of community outcomes, which suggests the need to be conservative in interpreting indicator information. Monitoring guides such as those produced by the City of Onkaparinga (2000) provide practical examples. Other examples are cited in MARCO (2005).

Ruffner (2002, p 4) points out that outcomes are much more difficult to measure and monitor than activities or outputs. “By their very nature, frequently they would not be expected to be manifested until some time after the programme intervention, generally not in sync with the same budgeting cycle. And outcomes typically come about not just as the result of a single intervention by one programme in isolation, but by the interaction of a number of different factors and interventions, both planned and unplanned.”

However, Ruffner also argues that “despite the perceived difficulties, outcome assessment in fact can be done, albeit at times with a somewhat different mindset and approach than from the direct measurement of inputs and outputs”. Ruffner recommends Mayne’s (2001) approach of addressing attribution through contribution analysis and laying out a plausible “performance story” (refer Table 2). Note that contribution analysis applies equally to councils’ own performance reporting as it does to community progress reporting.

**Table 2: Contribution Analysis**

Step 1: Develop the results chain	Describe the program theory model/program logic/results chain describing how the program is supposed to work. Identify as well the main external factors at play that might account for the outcomes observed. This program theory should lead to a plausible association between the activities of the program and the outcomes sought. Some links in the results chain will be fairly well understood or accepted. Others will be less well understood or subject to explanations other than that the program was the “cause.” In this way you acknowledge that attribution is indeed a problem.
Step 2: Assess the existing evidence on results	The results chain should provide a good idea of which intended results (outputs, intermediate and end outcomes) could be measured. What evidence (information from performance measures and evaluations) is currently available about the occurrence of these various results? The links in the results chain also need to be assessed. Which are strong (good evidence available, strong logic, or wide acceptance) and which are weak (little evidence available, weak logic, or little agreement among stakeholders)?
Step 3: Assess the alternative explanations	Outcomes by definition are influenced not only by the action of the program but also by external factors — other programs, as well as social and economic factors. In addition to assessing the existing evidence on results, there is a need to explicitly consider the extent of influence these external factors might have. Evidence or logical argument might suggest that some have only a small influence and that others may have a more significant influence on the intended results.
Step 4: Assemble the performance story	With this information, you will be able to set out your performance story of why it is reasonable to assume that the actions of the program have contributed (in some fashion, which you may want to try and characterize) to the observed outcomes. How credible is the story? Do reasonable people agree with the story? Does the pattern of results observed validate the results chain? Where are the main weaknesses in the story? There always will be weaknesses. These point to where additional data or information would be useful.
Step 5: Seek out additional evidence	To improve your performance story you will need additional evidence. This could involve information on both the extent of occurrence of specific results in the results chain and the strength of certain links in the chain. A number of strengthening techniques that you might be able to adopt are outlined in this work.
Step 6: Revise and strengthen the performance story	With the new evidence, you should be able to build a more credible story, one that a reasonable person will be more likely to agree with. It will probably not be foolproof, but will be stronger and more credible.

Source: Mayne (2001), cited in Ruffner (2002)

## Closing the Loop – From Evidence to Decisions

While the purposes of monitoring community outcomes indicators are undefined in the LGA (s. 92), it is reasonable to assume they would be similar to the purposes for identifying of community outcomes (s. 91):

- To measure progress towards the achievement of community outcomes
- To promote the better co-ordination and application of community resources
- To inform and guide the setting of priorities in relation to the activities of the local authority and other organisations.

This paper emphasises the need to present robust information and not read too much into correlations (or lack thereof) between outcome and output indicators. This means creating a plausible performance story for both the council and community that recognises the limits of aggregated information and apparent correlations. It also means incorporating elements of intervention logic and contribution analysis into both councils' annual reports and community outcome reports to gain a fuller picture of the attribution story.

The outcomes monitoring guide published by the City of Onkaparinga (2000) presents a three-tiered approach to communicating indicator information, as shown in Table 3. Clear and comprehensive communication is a central aspect of effective monitoring and reporting.

**Table 3: Communicating the Findings**

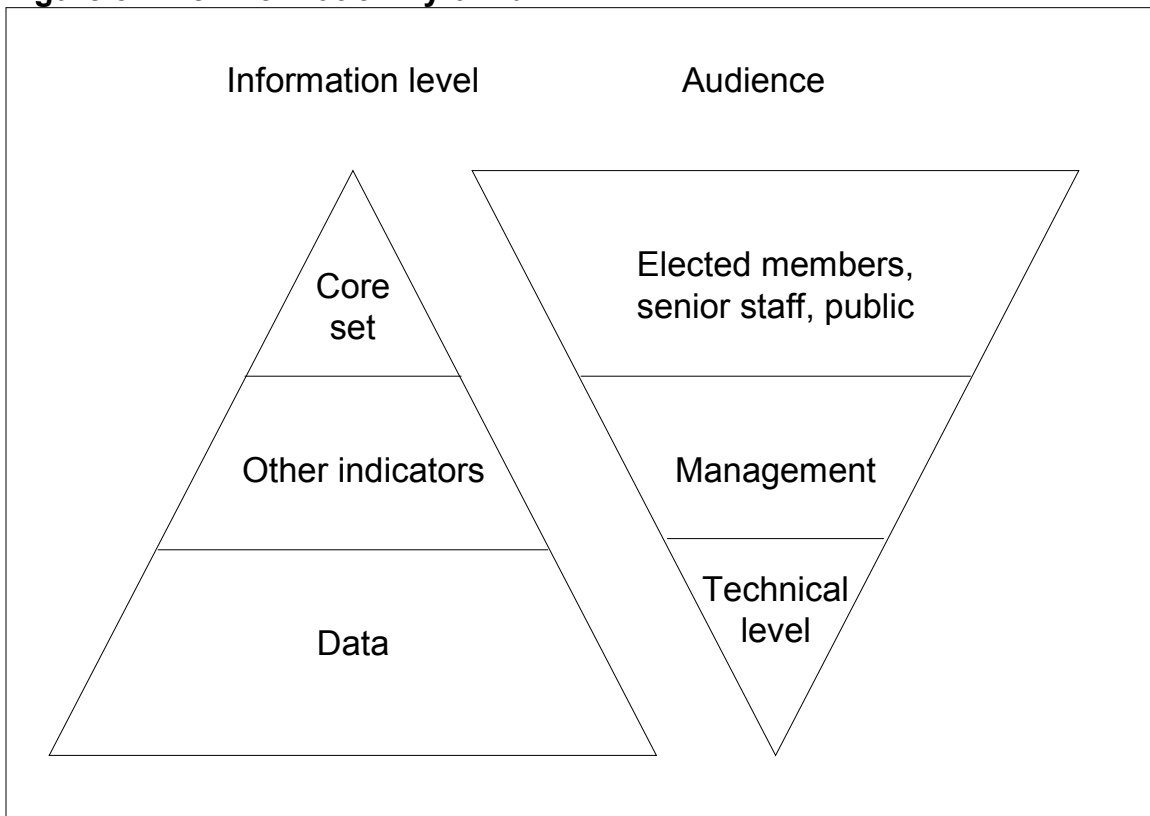
Format	Description
Report cards	A simple format for reporting to the general public or media by providing a snapshot of whether the indicators are moving towards or away from a desired direction or trend. Care needs to be taken in how the information is used and interpreted given its simplicity.
Summary reports	Summary reports are useful for elected members, senior management and stakeholder groups. They provide a snapshot of information including the definition, rationale, data used to support the indicator and any strengths and weaknesses that must be recognised when interpreting the data.
Technical reports	Offer more information about the measures, methodologies, assumptions and provide more detailed analysis of the data.

Successful attempts to integrate outcomes monitoring results into decision-making tend to package the results into simple presentations as a starting point for strategic thinking. "Strategic thinking is better understood as the facilitation of opportunities for a broad section of stakeholders and communities to contribute new ideas to program development and planning. Strategic thinking produces inclusive innovative approaches to problem solving and visioning" (Duir, pending). The City of Brisbane's work on Balanced Scorecard reporting and decision-making has been documented as a strong case study, for example through reports available for purchase from BSC Online. Brisbane's approach

involves the development of integrated strategies and scorecards for every unit within Council, with this information reported in a timely and meaningful way for budget decisions. This includes summarising key results into a red-green, or traffic-light representation, to graphically show which activities are performing well and which are not. An important aspect of implementing this approach is to ensure the budgeting process does not overpower or stifle strategic thinking.

Wanna and Bunting (2005) warn against over-simplification in relation to evidence-informed decision-making. In particular they warn against perverse consequences such as cutting budgets to activities that appear to be performing well, or censoring information about activities that do not appear to be delivering desired results. This highlights the need to gather ongoing evidence that has both depth and breadth, including both quantitative and qualitative assessment. One way to consider this is the “information pyramid” metaphor (refer Figure 3). In addition to indicators and community outcome reports, additional layers of information are needed to more fully report progress, evaluate the effectiveness of plans and programmes, and provide a strong basis for appropriate responses.

**Figure 3: The Information Pyramid**



Source: Adapted from a presentation by Peter Meadows, Statistics New Zealand 2005

A further consideration in community outcomes reporting is how to account for the actions of many other agencies and work towards shared or aligned strategies. Good practice appears to involve a collaborative approach to evidence-informed policy in parallel with individual agency strategic planning processes. Cook (2004) argues that considerable changes are need to structural, financial, strategic and performance management elements of New Zealand's public management system to better support a general cultural change towards an outcomes focus.

## **Concluding remarks**

Attributing outcomes to outputs is a process fraught with uncertainty. Care should be taken not to treat indicators as anything more than indicative, or to read too much into correlations (or lack thereof) between outcome and output indicators. With these warnings in place, planners should seek to tell performance and attribution stories through a robust interpretation of high quality evidence. Ruffner (2002, p 4) argues that despite the many challenges involved in monitoring and reporting, it is important to avoid negating the purpose of results-based reform, "which is to refocus efforts on what citizens and society ultimately gain from government. Without a focus of at least some form on outcomes, one too easily can lose sight of the bigger picture, which is what the programme is supposed to be about".

## **Appendix 1: Some definitions**

Cause – The producer of an effect, result, or consequence.

Concurrent cause – A cause that joins simultaneously with another cause to produce a result called also concurring cause.

Intervening cause – An independent cause that follows another cause in time in producing the result but does not interrupt the chain of causation if foreseeable.

Proximate cause – A cause that sets in motion a sequence of events uninterrupted by any superseding causes and that results in a usually foreseeable effect which would not otherwise have occurred.

Remote cause – A cause that is followed by a superseding cause interrupting the chain of causation; also a cause that in ordinary experience does not lead to a particular effect.

Superseding cause – An unforeseeable intervening cause that interrupts the chain of causation and becomes the proximate cause of the effect.

(Source: <http://dictionary.reference.com/search?q=cause>)

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