1

EVALUATION HIGHLIGHT

Addressing the Question of Attribution in Evaluation

March 2004

The purpose of this highlight is to provide suggestions for dealing with the challenge of 'attribution' within evaluation. It is designed to offer an overview of some of the key issues and challenges, as well as some suggestions for 'ways ahead'. It is a synthesis of some of the ideas presented in Alex Iverson's "Attribution and Aid Evaluation in International Development: Literature Review (2003) available at http://web.idrc.ca/ev_en.php?ID=32055_201&ID2=DO_TOPIC

All of the evaluation guidelines and highlights referenced are available on the Evaluation Unit's website at: http://web.idrc.ca/en/ev-32492-201-1-DO_TOPIC.html

When we think of attribution, the concept of causation often comes to mind. That is, what effects can we attribute to a given cause? More precisely, attribution involves drawing causal links and explanatory conclusions about the relationship between observed changes (whether anticipated or not) and specific interventions. Attributing *if*, *how*, and *how much* a given intervention 'caused' a particular 'effect' are some of the most important questions for evaluation, and some of the most difficult to answer.

The challenges associated with attributing 'cause' and 'effect' are evidenced in the epistemological debates that have permeated the social and natural sciences throughout their history. More recently, within certain branches of evaluation research, attribution has presented serious challenges – particularly in evaluation that deals with comprehensive interventions embedded in complex social systems. Perhaps nowhere is this more evident than in the field of international development research where the socio-economic, environmental, political and cultural dynamics of 'aid' efforts provide highly unique challenges for evaluators; where change is seldom attributable to any single factor, and can be extremely unpredictable, especially when it occurs far 'down-stream' from the intervention.

Development research & the challenge of attribution

Several characteristics of development research pose significant challenges when attempting to establish attribution.

1. The Sector

Identifying 'causally probable' relationships is easier in some sectors than in others. Generally speaking, attribution is substantially more problematic within 'complex systems' than within 'simple systems'. Sectors that deal primarily with non-human/non-social environments within which interventions can be isolated, manipulated, and measured are often labeled **simple systems**. Conversely, sectors that involve primarily human and social environments are referred to as **complex systems.**

Linear logic models and hypothesis testing methodologies may be appropriate for the analysis of the effects of an intervention within simple systems. However, these approaches and methods are seldom sensitive to the dynamics and logic of complex systems.

The difficulties involved in establishing attribution within complex systems are primarily due to the varied and dynamic variables affecting the complex system. This is sometimes referred to as the issue of 'context'. Certainly, "one of the most problematic parts of impact assessment is determining causality, because in real life, a combination of several factors is likely to have caused any observed change" (Roche, 1999:32).

2. Project or Program Level of Analysis

In addition to sector, the level of analysis will the potential for establishing attribution in an evaluation. While no intervention can be categorized as exclusively 'simple project' or exclusively 'comprehensive program', it is worthwhile to consider attribution with this dichotomy in mind.

Simple project-level interventions refer to single initiatives, with explicit, measurable objectives, carried out within a short time frame. In contrast, **comprehensive program-level interventions** involve a set of interventions, which together are working to attain specific global, regional, country, or sector development objectives. They are often less rigidly bound by time and involve multiple activities that may cut across sectors, themes and/or geographic areas.

While attributing results may be more appropriate for 'simple' project-level interventions, the complex nature of 'comprehensive' program-level interventions makes inferring causation at this level of analysis extremely difficult, if not impossible.

To the extent that as aid evaluation involves comprehensive program-level analysis, this 'complex' sector is particularly prone to the problems associated with attribution (i.e., attributing the results of comprehensive program-level interventions within a complex system sector). This has meant increased scrutiny of the usefulness of conventional impact evaluation approaches (e.g., Logical Framework Analysis and Results-Based Management) that tend to be more appropriate for evaluating at the project level within 'simple' systems. "Traditional evaluation models do not necessarily deal with adaptive, complex systems, which is what human communities and social-information systems are". (Whyte, 2000)

3. Attributing Downstream Results

In addition to sector and level of analysis, the fact that results from interventions within the development sector may appear far down-stream from the intervention can complicate attempts to attribute results. While we may be able to attribute immediate results (such as outputs), and even intermediate results (such as outcomes), to specific interventions, longer-term results (such as impacts) will pose greater attribution challenges.

Ways ahead

The increased emphasis within international development on governance and democracy, institutional learning and capacity building, participation and empowerment, has called into question the appropriateness of evaluation models that emphasize attribution and has launched a search for more compatible and appropriate methods of evaluation. Recall that, since causation *per se* is not possible (see 'Causation: Background and Terms'), it has been used within evaluation to refer instead to 'probabilistic causation' (i.e., correlation) determined through quantitative analysis. In practice, one sees more conventional, quantitative models being used in conjunction with more qualitative, case-oriented studies. There is an increased use and legitimacy of qualitative methods – both within the social sciences generally and evaluation particularly.

The growing acceptance and use of multiple methodologies within evaluation research is linked to the discipline's changing (albeit gradually) conceptualization of 'causation'. On the one hand, there seems to be a change in the 'standard of evidence' by which evaluator's 'measure' the effects of interventions. Notably, where 'proof' of attribution is required, the means of establishing it may not necessarily follow 'conventional' methods. Increasingly, evaluators are adopting mixed methods to 'reduced uncertainty' and generate 'reasonable confidence' as a satisfactory substitute for 'statistical significance' alone. And, they appear to regard the loss in statistical rigour as outweighed by the gain in understanding of 'which programs work', 'what parts of which programs work', 'why they worked', and 'in what contexts'. John Mayne explains:

> Measurement in the public sector is less about precision and more about increasing understanding and knowledge. It is about increasing what we know about what works in an area and thereby reducing uncertainty… We need to include softer and qualitative measurement tools in our concept of measurement in the public sector. (Mayne, 1999:5)

Mayne further suggests that, "[w]e need to accept the fact that what we are doing is measuring with the aim of reducing the uncertainty about the contribution made, not proving the contribution made". (Mayne, 1999: 16)[1] Albeit, this may not represent a change in the conceptualization of causation so much as a new standard for determining the relationship between intervention and impact.

The scarcity of aid funding along with an increasingly vigilant demand for accountability have provoked the issues surrounding the question of attribution. At the same time, evaluation has undergone a shift from measuring and 'proving' to understanding and improving'. The recognition of the problematic nature of attribution has engendered a shift in the conception of causation away from proving relationships between variables toward reducing uncertainty about how things relate and change. These changes have been considerable for evaluation generally, and for international development evaluation in particular.

[1] Explaining 'contribution analysis', Mayne asks whether "a reasonable person, knowing what has occurred in the program and that the intended outcomes actually occurred, agrees that the program contributed to those outcomes?" (Mayne, 1999:7).

One way of responding to the challenges posed by the demand for attribution may be to ask, prior to the evaluation, about the nature and character of the intervention. We already know that given the complexity of the development sector, attribution may not be feasible. But if we identify the level of analysis (whether evaluating at the project or program level), and acknowledge the potential for 'down-stream' results, we are apt to be in a better position to decide on appropriate models and methods, and determine whether or not attribution is the primary concern.

There are evaluation methodologies that grapple with the question of attribution and IDRC staff and management can call on the Evaluation Unit for support in identifying evaluation approaches at any stage. The Evaluation Unit provides technical input, facilitates planning and implementation processes, and provides print and electronic resources to support the ongoing evaluation work of the Centre and its partners.

Sources & Further Reading

Earl, Sarah, Fred Carden and Terry Smutylo. 2001. Outcome Mapping: Building Learning and Reflection into Development Programs. International Development Research Centre, Ottawa.

Mayne, John. 1999. Addressing Attribution Through Contribution Analysis: Using Performance Measures Sensibly. Discussion paper, Office of the Auditor General of Canada.

Roche, Chris. 1999. Impact Assessment for Development Agencies: Learning to Value Change. Oxfam, United Kingdom.

Smutylo, T. 2001. Crouching Impact, Hidden Attribution: Overcoming Threats to Learning In Development Programs. Evaluation Unit, IDRC, Ottawa.

Whyte, Anne. 2000. Assessing Community Telecentres: Guidelines for Researchers. Acadia Initiative of IDRC.

Web Resources

Iverson, A. 2003. Attribution and Aid Evaluation in International Development: A Literature Review. http://web.idrc.ca/en/ev-32055-201-1-DO_TOPIC.html.