

# COMPARATIVE CASE STUDY

## OVERVIEW

A comparative case study is defined as 'the systematic comparison of two or more data points ('cases') obtained through use of the case study method' (Kaarbo & Beasley, 1999, p. 372). A case may represent a participant, an intervention site, a programme, or a policy.

Case studies have a long history in the social sciences, yet for a long time, case-based methods have been treated with scepticism (Harrison et al., 2017). However, the advent of grounded theory in the 1960s led to a revival in the use of case-based approaches. From the early 1980's the uptake of case study research in the field of political sciences led to the integration of formal, statistical, and narrative methods as well as the use of empirical case selection and causal inference (George & Bennett, 2005), which largely contributed to its methodological advancement. Now, comparative case study

*'has grown in sophistication and is viewed as a valid form of inquiry to explore a broad scope of complex issues, particularly when human behaviour and social interactions are central to understanding topics of interest'*

(Harrison et al., 2017)

It is argued that comparative case studies can be applied to detect causal attribution and contribution when using a comparison or control group is not feasible (or not preferred). Advocates maintain that comparative case studies can produce generalizable knowledge about why and how an intervention (programme or policy) is successful or fails to work. They are particularly effective in exploring the role of context in influencing intended outcomes and are helpful in navigating multifaceted, multimodal programme components that generate different causal outcomes.

Comparative case studies can make use of quantitative as well as qualitative methods and employ similar data collection techniques as single case studies. Yet, as they move beyond merely supporting claims that propose a success/failure of an intervention towards examining causality, they require comprehensive effort in setting up propositions, conducting analytic work and synthesising findings.

## KEY ELEMENTS OF METHODOLOGY

Comparing cases enables evaluators to tackle causal inference through assessing regularity (patterns) and/or by excluding other plausible explanations. The approach to causality which underpins the comparative case study (CCS) approach is described by Byrne and Ragin (2009). The essence of causality for these authors is 'complexity' and 'multiplicity'. Causality is understood as *complex*, as it cannot be attributed to a single variable given that the system from which it derives is also a complex system and the influence of variables are closely intertwined, such that causal impact resists quantification. While complex systems are not to be understood as holistic or chaotic (i.e. given that 'their parameters do not change in *any* fundamental, qualitative fashion' Ragin, 2009: 103) yet they *do* have the potential of non-linear change as a response to changes in internal parameters or the external environment. Furthermore, *multiple* causality means that the same outcomes might be generated by different causal configurations. It follows that – as Ragin asserts – the outcome is:

*'... not the product of any single cause, but rather of the interaction of multiple causes, which causes are not, variables' external to the cases but rather embodied aspects of the cases'*

(Ragin, 2009, p. 101)..

Thus, CCS – as a configurational approach – differs from linear modelling techniques as it allows multiple causation and sees cases as complex systems, where they cannot be reducible to variables (Ragin, 2009).

Moreover, in the social realm, these generative mechanisms (systems of complex causes) are always contingent and emerge through the interaction with context. Therefore, understanding how context influences results is a crucial aspect of CCS research.

CCS applications may include scenarios when (1) a program model is implemented in multiple sites (or contexts) and – contrary to expectations – different outcomes are observed, or (2) when a range of different interventions (programmes) lead to similar outcomes.

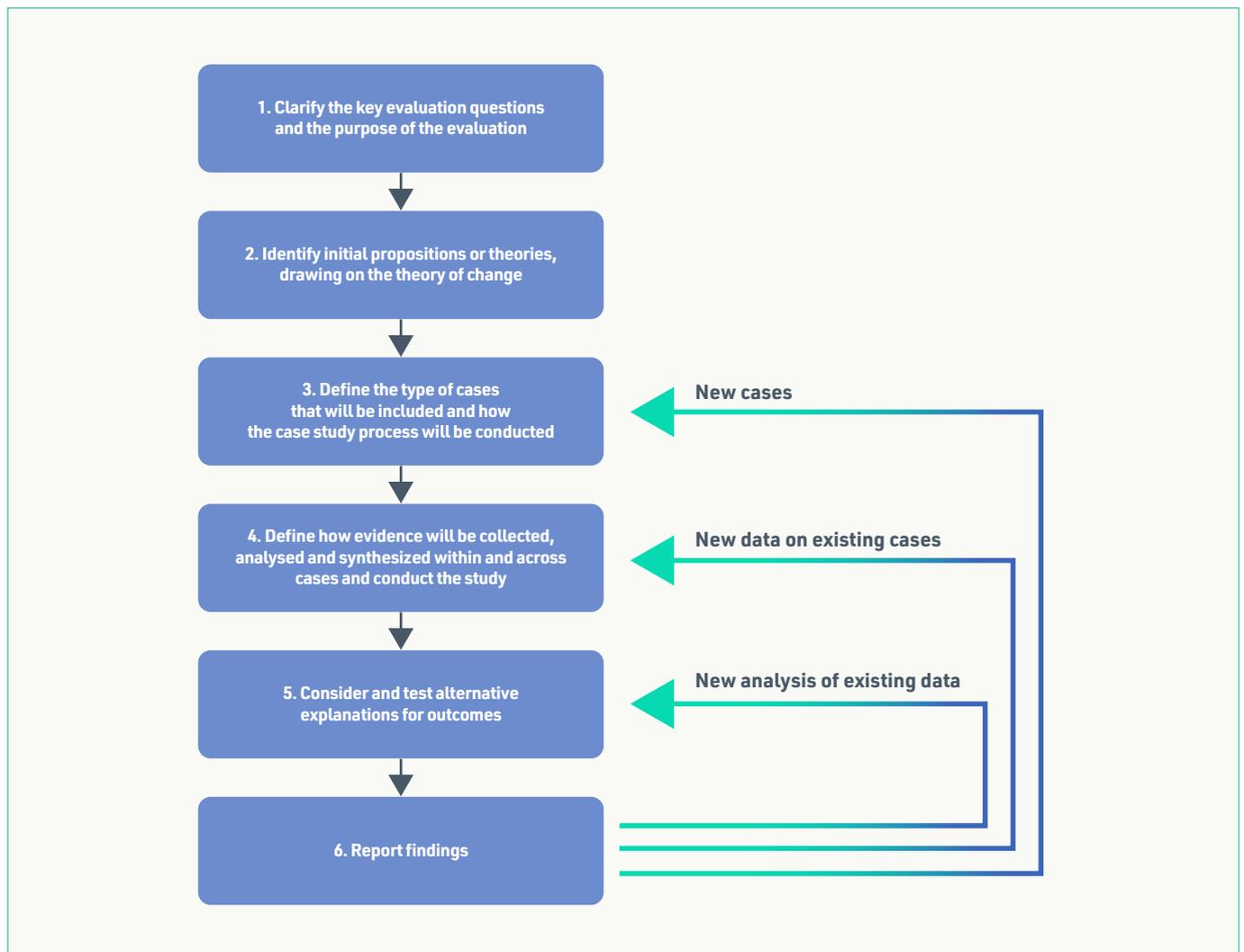
Depending on the quality of pre-existing theoretical explanations in the field, CCS can be used for the analytic purpose of:

- Building a theory – if available theories addressing a research question are scarce
- Refining existing theories – if theories are existent but underdeveloped, or
- Testing theories – to assess the applicability of multiple elaborated but competing theories (Vogt et al, 2011).

In practical terms, CCSs involve proposing, analysing and synthesising patterns (similarities and differences) across cases that share common objectives.

Goodrick (2014), on the assumptions that detailed evaluation hypotheses and/or a comprehensive theory of change have been developed, discusses the subsequent steps to be taken in undertaking a CCS study (this is in line with the fact that for mere theory-building purposes, single case studies are more often used). This comprises the following six essential stages: the first three are concerned with establishing the dimensions of the study and the selection of cases, while the last three allow the evidence to be retrieved and tested (see Figure 12)

**Figure 12. The logic of comparative case studies (Goodrick, 2014, p. 2)**



## Key evaluation questions and the purpose of the evaluation

The evaluator should explicitly articulate the adequacy and purpose of using CCS (this should be guided by the evaluation questions) and define the primary interests. Formulating key evaluation questions allows the selection of the right cases that will be used in the analysis. The evaluator might be interested in:

- Describing the similarities and differences between cases
- Interpreting the implications of those similarities/differences
- Identifying and testing explanatory theories on how and why a programme worked (or did not work) in the given context.

## Propositions based on the theory of change

Theories and hypotheses that are to be explored should be derived from the theory of change (or alternatively, it can be informed by previous research around the initiative, existing policy or programme documentation).

## Case selection

Advocates for CCS approaches claim that an important distinction between the case-oriented small  $n$  studies and (most typically large- $n$ ) statistical/variable-focused approaches lies in the process of selecting cases: in case-based methods, selection is iterative, and cannot rely on convenience and accessibility. Hence, purely mechanical procedures, such as opportunity or random sampling are not suitable in CCS, nor is it feasible to fix the number of cases a priori. Case Selection should be an ongoing tentative process, where – similarly to the procedure of initial selection – adding and dropping cases are justified on theoretical grounds (Mahoney & Goertz, 2004; Ragin, 1994).

'Initial' cases should be identified in advance, but case selection may continue as evidence is gathered. Cases can represent micro, meso or macro-level social phenomena. Selecting the unit of analysis – i.e. individuals, programmes, groups or implementation processes – should be – again – theoretically grounded. Goodrick (2014) suggests reflecting on the key research questions when defining the unit of analysis. The evaluator may ask questions, such as:

- 'Which group's response to the intervention is of interest?
- How will an understanding of this group's perspective assist in helping to understand what worked, how and why?
- Which dimensions of the cases require study to answer the [key evaluation questions]?' (Goodrick, 2014, p. 7)

Various case selection criteria can be identified depending on the analytic purpose (Vogt et al., 2011). These may include:

- **Very Similar Cases:** Except for One Outcome that is Different: Select cases that are very similar yet experience different outcomes. To assess reasons for the difference among otherwise similar cases (see also Mill's most similar method). Can be used in exploratory or confirmatory way.
- **Very Different Cases:** Except for one Outcome That is the Same: Very different cases with the same outcome. Causal variables that are different can be ruled out, and other explanations can be explored or postulated.
- **Typical or Representative:** A case may be selected as it is representative of a large number of cases.
- **Extreme or Unusual:** A case is chosen precisely because it is an extreme case of a phenomenon. For instance, to test the effect of an environmental regulation, the evaluator might want to look at those states or nations who used the strongest regulations assuming that the impact – if there is any – is most likely to be identified and explained here.
- **Deviant or Unexpected:** To be used when strong prior evidence suggests expecting something of a particular (set of) case(s), yet the expectation proves wrong.

- **Influential or Emblematic:** Identify influential cases that are typically dropped from a data set (e.g. when using regression analysis) as their presence would significantly alter results. In case studies, however, they are useful to examine the robustness of hypotheses or theories.

### Identify how evidence will be collected, analysed and synthesized

Comparative case studies often apply mixed methods. While other methodologies may mix qualitative and quantitative methods to explore different research questions, in CCS data is analysed together to gain in-depth knowledge about the cases and causal propositions. The dimensions of comparisons should be defined by the theory of change and may include:

- Comparing how different programmes operate across cases and contexts
- Comparing anticipated outcomes against actual outcomes
- Comparing the responses of different stakeholders to a programme over time (within the same, or different contexts).

### Test alternative explanations for the outcomes

Following the identification of patterns and relationships, the evaluator might want to test the established propositions in a follow-up exploratory phase. Approaches applied here may involve:

- Triangulation: using multiple data sources to verify and substantiate an assessment
- Selecting contradicting cases: which may help to critically test the proposition
- Analytic approach: i.e. using qualitative comparative analysis (QCA) to examine attributes of cases that may be associated with the outcome; or variable-oriented approach to assess specific variables and their average effects.

### Report findings

Reporting formats should always be framed around the key evaluation question, but the structure should display a right balance between description, interpretation and explanation. In CCS, findings are often complex and multifaceted; therefore, evaluators can use summary tables and diagrams, and structure findings around themes and main theoretical insights.

## MULTI-METHOD APPROACHES

CCS can be used as a single component or it is suitable for being nested within other designs. It is often used to complement (quasi-) experimental design by elaborating on findings and explaining why and how an intervention did or did not work. Nesting may also be advantageous to understand the specific contexts in which change occurred (e.g. Luecking et al., 2020).

When evaluating complex interventions, CCS can be useful to address evidence gaps, such as questions around the mechanisms that make an intervention successful, or to explain relevant differences across different socio-cultural contexts (e.g. Pfadenhauer et al., 2021).

As a stand-alone design, CCSs are most often used to explore similarities and differences across contexts, in which case they are likely to use mixed-methods: for instance, they may combine measures, surveys or QCA (to identify causal relationships) with process tracing (to explore possible explanations and to test whether alternative hypotheses can be ruled out).

## RESOURCES REQUIRED

### Evaluator skills and experience

To effectively apply CCS, a range of skills and expertise are required (Goodrick, 2014). It is necessary to have expertise in relevant qualitative and/or quantitative methods (depending on the type of methodology used). Evaluators must be able to construct propositions (theories), embrace complexities of the case and possess strong synthesizing skills to integrate divergent (or convergent) evidence. The ability to formulate coherent arguments around often complex findings is also important.

### Resource implications

CCS evaluation can also be resource-intensive especially if the study involves extensive fieldwork. If resources are scarce, it may be advantageous to select a small number of cases (see discussion around typical or representative cases), or to rely entirely on secondary data, provided that the quality of evidence is strong enough.

## CASE STUDY

Makerspaces are informal sites for creative production in art, science, and engineering where people of all ages blend digital and physical technologies to explore ideas, learn technical skills, and create new products. Sheridan et al. (2014) used a comparative case study to explore how makerspaces may function as learning environments. The authors chose a case study approach because it allows for the integration of diverse sources of evidence to build a deep within-case understanding of each makerspace and a comparative case approach because they judged that it was particularly suited to analysing commonalities and differences across sites given the diversity of makerspaces and a trend toward designing youth and family spaces after adult makerspaces. They used purposive sampling to select three makerspaces that reflected some of the diversity in types of participants in makerspaces and the nature of participation. Drawing on field observations, interviews, and analysis of artifacts, videos, and other documents, the authors describe features of three makerspaces and how participants learn and develop through complex design and making practices. They describe how the makerspaces help individuals identify problems, build models, learn and apply skills, revise ideas, and share new knowledge with others.

### Reference

Sheridan, K., Halverson, E., Litts, B., Brahms, L., Jacobs-Priebe, L. and Owens, T. (2014) 'Learning in the Making: A Comparative Case Study of Three Makerspaces', *HARVARD EDUCATIONAL REVIEW* Vol.84(4): 505–531. doi: <https://doi.org/10.17763/haer.84.4.brr34733723j648u>

## RESOURCES

### Web resources

A webinar shared by Better Evaluation with an overview of using CCS for evaluation:

Better Evaluation, (2016). Impact Evaluation Webinar 6 Comparative Case Studies. [video] Available at: <https://www.youtube.com/watch?v=SgLSR55BxHg> [Accessed 7 September 2021].

## Key reading

### **A short overview describing how to apply Comparative Case Studies for evaluation:**

Goodrick, D. (2014). *Comparative Case Studies, Methodological Briefs: Impact Evaluation 9*, UNICEF Office of Research, Florence.

### **An extensively used book that provide a comprehensive critical examination of case-based methods:**

Byrne, D., & Ragin, C. C. (2009). *The Sage handbook of case-based methods*. Sage Publications.

### **This book focuses on how case-study is applied in practice using exemplary case studies drawn from a wide variety of academic and applied fields:**

Yin, R. K. (2014) *Case study research: Design and methods (5th ed.)*. Sage: Los Angeles.

## Further references

**Byrne, D.** (2009). Complex realist and configurational approaches to cases: A radical synthesis. In Byrne, D., & Ragin, C. C. (Eds). *The Sage handbook of case-based methods*. Sage Publications. 101-112.

**George, A. L. & Bennett, A.** (2005). *Case studies and theory development in the social sciences (4th ed.)*. Cambridge, MA: MIT Press.

**Harrison, H., Birks, M., Franklin, R., & Mills, J.** (2017). Case Study Research: Foundations and Methodological Orientations. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 18(1). <https://doi.org/10.17169/fqs-18.1.2655>

**Kaarbo, J., & Beasley, R. K.** (1999). A practical guide to the comparative case study method in political psychology. *Political psychology*, 20(2), 369-391

**Luecking, C. T., Dobson, P., & Ward, D. S.** (2020). Barriers and Facilitators of Parent Engagement With Health Promotion in Child Care: A Mixed-Methods Evaluation. *Health Education & Behavior*, 47(6), 914-926.

**Mahoney, J., & Goertz, G.** (2004). The possibility principle: Choosing negative cases in comparative research. *American political science review*, 98(4), 653-669.

**Pfadenhauer, L. M., Grath, T., Delobelle, P., Jessani, N., Meerpohl, J. J., Rohwer, A. & Rehfuess, E. A.** (2021). Mixed method evaluation of the CEBHA+ integrated knowledge translation approach: a protocol. *Health Research Policy and Systems*, 19(1), 1-12.

**Ragin, C. C.** (1994). *Constructing social research. The unity and diversity of method*. Newbury Park, CA: Pine Forge Press.

**Vogt, W., Gardner, D., Haeffele, L. & Baker, P.** (2011). Innovations in program evaluation: comparative case studies as an alternative to rcts. In *The SAGE handbook of innovation in social research methods* (pp. 293-324). SAGE Publications Ltd, <https://www.doi.org/10.4135/9781446268261>