

Qualitative Comparative Analysis in Political Science: A Study of Media Effects on the Policy Agenda

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Contributor Biography

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Published Articles

Dekker, R., & Scholten, P. W. A. (2017). Framing the immigration policy agenda: A qualitative comparative analysis of media effects on Dutch immigration policies. *The International Journal of Press/Politics*, 22, 202–222.

Dekker, R. (2016). *Policy in the public eye: Agenda-setting and framing dynamics of traditional and social media in relation to immigration and integration policies* (Doctoral thesis). Erasmus University Rotterdam, Rotterdam, The Netherlands.

Dekker, R. & Scholten, P. W. A. (2015, August). *Tsunami of tragedie? Media-aandacht en Beeldvorming rond het Vreemdelingenbeleid* (WODC Research Report Project no. 2554). The Hague, The Netherlands: Wetenschappelijk Onderzoek- en Documentatiecentrum (WODC).

Abstract

Qualitative comparative analysis is a relatively new research method in political science and public administration to find patterns in qualitative data in a small to medium-sized set of cases. In my PhD research, I used this method to study under what conditions media coverage for policy issues is associated with changes on the policy agenda. My research focused on the policy agenda of immigration. This contribution outlines reasons to choose qualitative comparative analysis, different types of qualitative comparative analysis, the process of conducting qualitative comparative analysis and lessons learned on benefits and limitations of this method. Qualitative comparative analysis offers advantages when comparing a relatively large number of cases, when testing configurational hypotheses and when assuming a non-linear notion of causality. In my research, I applied the most basic type of crisp set qualitative comparative analysis. Multi-value and fuzzy-set qualitative comparative analysis allow for comparison of case characteristics in more detail. The process of conducting qualitative comparative analysis can be visualized as an hourglass process, starting and ending with the richness of qualitative

case data with minimalization of the logical pattern in a comprehensive formula in between. The main benefit of qualitative comparative analysis is supporting the process of systematically comparing complex qualitative cases by keeping focus on the research puzzle at hand. Most important lesson is to not to get caught up in the qualitative comparative analysis technicalities. Qualitative comparative analysis is a means for interpretation of qualitative data and not a goal in itself.

Learning Outcomes

By the end of this case, students should be able to

- Explain what qualitative comparative analysis is
- Decide when it is appropriate to use qualitative comparative analysis
- Distinguish between different types of qualitative comparative analysis
- Design their own crisp set qualitative comparative analysis study
- Reflect upon opportunities and limitations of qualitative comparative analysis

Case Study

Introduction

When conducting qualitative case studies, at some point, you may start feeling overwhelmed by large amounts of rich qualitative data from the various cases you are comparing. Because of the work that has gone into collecting the data, you seem to see only the intricacies of each case, but you have lost sight of the bigger picture and patterns throughout the cases. When you find yourself in such a situation, qualitative comparative analysis (QCA) might offer a solution for you.

QCA is a configurational comparative research approach that allows to systematically compare characteristics of cases and uncover patterns in qualitative data. The method was originally developed in the 1980s by Charles Ragin (1987). The methodology has developed since and has become common practice in the social sciences in general, and in political science and public administration in particular (Rihoux, Álamos-Concha, Bol, Marx, & Rezsöhazy, 2013). Currently, there are several handbooks available addressing various types of QCA and software packages to support the analysis (Rihoux & Ragin, 2009; Schneider & Wagemann, 2012; Thiem & Dusa, 2012). There is also an international research community “Compass” that organizes seminars, manages a bibliographical and data archive, produces publications, and is engaged in software development.

I learned about QCA methodology during my PhD research when I found myself in a situation as described above. I was studying the effects of media coverage on immigration and asylum on the Dutch policy agenda. I had selected 16 cases that had received different amounts and types of media attention. I studied each of the cases in depth by analyzing media coverage on television, in newspapers, opinion magazines, and on social media. I also studied references to specific cases on the national policy agenda in policy memoranda that were sent from government to parliament. Learning about the complexity of each individual case, and dealing with a relatively large variety of 16 cases, made me lose sight of the research puzzle that I was addressing: *Under what conditions is media coverage for policy issues associated with changes on the policy agenda?*

In the following, I will explain how QCA proved a helpful methodology to make sense of the rich qualitative data and helped me develop an answer to my research question. In the following, I will address several lessons learned when using QCA on when to apply this methodology, different types of QCA, and how QCA is put into practice.

When to Use QCA?

QCA was designed to bridge the gap between in-depth study of several cases and quantitative research focusing on variables in a large number of cases (Grofman & Schneider, 2009). It is a systematic and transparent way of tracing patterns in qualitative data from multiple cases—usually a small to medium-sized set of between 5 and 50 cases (Rihoux & Ragin, 2009), but increasingly also larger numbers of cases. When dealing with these numbers of cases and large amounts of rich qualitative data per case, other comparative case-study methods (cf. Blatter & Haverland, 2012) may not suffice. The number and heterogeneity of cases makes it just too complex.

Furthermore, QCA is an appropriate method when theory implies that no single variables, but configurations of factors will determine a certain outcome and that different combinations of factors may generate this outcome. QCA assumes that certain “configurations” of factors (so-called conditions) are sufficient or necessary for achieving a certain outcome. In the case of my research, theory assumed contingency of media effects on the policy agenda (Walgrave & Van Aelst, 2006; Wolfe, Jones, & Baumgartner, 2013).

An additional reason to use QCA might be the notion of causality that underlies this methodology. QCA assumes equifinality and multifinality (Verweij & Gerrits, 2012, p. 27). This means taking into account that different conditions can produce similar outcomes, and that the same condition can produce different outcomes in different contexts (or configurations). In the case of my research, I expected that media effects on the policy agenda derive from different aspects of media coverage, including the amount of media attention and the “framing” of the media coverage. Furthermore, it was expected that, for example, large amounts of media attention would not have an effect on the policy agenda in all cases. The theoretical assumption in policy agenda-setting research is that media effects do not result from a linear causal process but entail complex causal interactions between the media and policy agenda (Boydston, 2013; Wolfe et al., 2013). Therefore, a different notion of causality fit my research subject.

Choosing Between Different Types of QCA

There are three basic types of QCA: crisp set QCA (csQCA), multi-value QCA (mvQCA), and fuzzy-set QCA (fsQCA) (Rihoux & Ragin, 2009; Schneider & Wagemann, 2012). The simplest and original type of QCA is “crisp set” (Ragin, 1987). As a beginner in using the methodology, it proved helpful to start with this type of QCA. In csQCA, each condition and the outcome is operationalized in a way that it has two possible values: 0 or 1. I, for example, attributed the value 1 to media attention when more than 100 publications in our selection of newspapers, opinion magazines, and TV programs were published within 6 months after the onset of media coverage of the case and 0 when this was not the case (see Table 1). A downside to csQCA is that I lost some of the complexity and richness of the data. There was more variety in numbers of publications and framing that I could have used in the analysis. Also, the threshold for inclusion and exclusion should be transparent and justified.

Table 1.

Caption: Operationalization of conditions for analysis.

Outcome: Policy change	Change in issue frame on the policy agenda within a period of maximum 1 year after initiation of media coverage of the case.
Media attention	More than 100 publications in our selection of newspapers, opinion magazines, and TV programs within 6 months after the onset of media coverage of the case.
Frame contestation	When the framing of more than 50% of media coverage is different from the initial issue frame on the policy agenda.
Frame consonance	When one frame is dominant in more than 50% of all media publications.

To maintain more richness of the data, I could have used mvQCA or fsQCA. In mvQCA, a condition is attributed multiple values, for example, 1, 2, 3, and 4 (Vink & Van Vliet, 2009; 2013; Thiem, 2013). MvQCA allows the researcher to deal with non-dichotomous conditions which cannot be easily quantified. For example, in my study, I could have used mvQCA to attribute the dominant media frame (a way of presenting the news) to the cases, distinguishing between a human interest, threat, economic, and managerial frame (d'Haenens & de Lange, 2001; Vliegenthart, 2007). MvQCA requires more complex analyses because there are more logically possible configurations. With a relatively small number of cases, there will also be more logical remainders: configurations of conditions that are logically possible but absent in my set of cases.

The last and most advanced type of QCA is fsQCA (Ragin, 2000, 2008). In fsQCA, a condition is quantified on a scale of 0 to 1. By allowing for a large variety of values, the richness of qualitative data can be better preserved in the analyses. However, the operationalization of this richness in quantitative terms, somewhat diminishes the qualitative nature of the method. If your conditions can easily be quantified on a scale of 0 to 1, why not just do a regression analysis estimating relationships between variables (Vis, 2012)? The answer lies in the reasons for choosing QCA that I listed in the previous section. First, regression will only produce meaningful results if you have a moderately large-*N* of cases. Second, there might not be enough cases to include different hypotheses and variables in your model. Finally, there is a theoretical advantage of being able to test set-theoretical hypotheses combining several conditions and assuming a more complex notion of causality.

Research Practice of QCA

The process of QCA can be visualized as an hourglass. First, in-depth qualitative analysis of the cases results in a large and rich body of data on each case. Second, QCA entails a reduction of the complexity by summarizing the cases on relevant conditions and the outcomes and looking for patterns of co-occurrences (configurations). Finally, the relevant configurations are re-interpreted in light of the richness

of the qualitative case data. Residual complexity and exceptional “black swan” cases that do not fit the main patterns in the data are assumed to be present and you can use them for more in-depth interpretation of the findings.

QCA starts with a research question based on a theoretical research puzzle and can thus be used to test hypotheses. The method is less suited for a grounded theory approach that focuses on theory development (cf. Glaser & Strauss, 1967). QCA involves identifying relevant conditions and testing how certain configurations of conditions are associated with an outcome. Therefore, you need to have a basic idea on the specific case-characteristics that will be relevant. In my PhD research, the focus was the study of media effects on the policy agenda. I wanted to analyze the effects of different aspects of media coverage, including volume of media attention, frame contestation, and frame consonance of the media coverage (see Table 1 and Dekker & Scholten, 2017, for the specifics).

You can use different rationales for choosing your cases. When the outcome you want to study is known in the cases, you can purposively select a number of cases with and without this outcome. If the outcome is not yet known at the point of case selection or if your analysis has a more explorative nature, you can do a random selection or purposively heterogeneous selection of cases. In case of my research, I selected different types of issues that gained media attention to explore what conditions and outcomes were present. This, for example, included cases of individual immigrants, larger groups of immigrants and policy proposals. In other research, case-selection may not be required: for example, if your cases are the 28 European Union (EU) member states.

Qualitative data that you collect on your cases may include documents, interviews, observations, or a combination of these. Data collection should include all data required to provide you with in-depth knowledge of the cases. These data should be processed (transcribed and/or ordered) and coded on the conditions. It can also include a process of open coding to find new conditions that may be relevant to explaining the outcome.

The next step in QCA is calibration. This involves the synthesis of the data into a “raw data matrix.” All cases are listed in the left column of the table and the conditions and outcome are listed in the top row. Each case is scored on these different conditions. The type of score depends on the chosen type of QCA (csQCA, mvQCA, or fsQCA). In my crisp set analysis, I scored all 16 cases on the different conditions as 0 or 1 (see Table 2). As this table demonstrates, in 9 of 16 cases, the policy frame remained the same over 1 year after the onset of media attention for the cases. This was interpreted as no media effect having taken place. In 7 of the 16 cases, the framing of the issue on the policy agenda changed within a period of 1 year after the onset of the issue.

Table 2.

Caption: Data matrix “policy change” and three conditions (crisp set).

Case ID	Media attention <i>(1 = large)</i>	Frame contestation <i>(1 = yes)</i>	Frame consonance <i>(1 = yes)</i>	Policy change <i>(1 = yes)</i>
MAN	1	1	0	1
DOL	1	1	0	1
AHM	0	1	1	1
BUT	0	1	1	1
ORA	0	1	0	1
PAR	0	1	0	1
AUP	0	1	1	1
ERI	1	0	0	0

UGA	0	0	0	0
RET	0	0	1	0
AMS	1	1	0	0
IJS	0	0	0	0
HUN	0	1	1	0
CHI	0	1	1	0
POL	1	1	0	0
COD	0	0	1	0

The raw data matrix is then transformed into a so-called “truth table.” The truth table lists all the logically possible combinations of conditions and sorts the cases accordingly. Our truth table has eight logically possible configurations (2^3). Each configuration is presented as a row (Table 3). Two logical configurations were not present in any of the cases.

Table 3.

Caption: Truth table policy change according to conditions media attention, frame contestation, and frame consonance.

Media attention (MA)	Frame contestation (FT)	Frame consonance (FS)	Policy change (PC)	Cases
0	1	0	1	ORA; PAR
1	0	0	0	ERI

0	0	0	0	UGA; IJS
0	0	1	0	RET; COD
1	1	0	C	MAN; DOL; AMS; POL
0	1	1	C	AHM; BUT; CHI; AUP; HUN
1	1	1	R	—
1	0	1	R	—

C: contradictory row; R: Logical remainder.

Following the Boolean logic of QCA, each row in the truth table was “minimized” into a comprehensive formula. The information in the truth table is logically summarized in a set of propositions that holds true for our set of cases (Table 4). This process involves pairwise comparison of the configurations that agree on the outcome and differ in but one other condition (Ragin, 1987). Presence of a condition is indicated by using upper cases, absence of a condition by using lower cases and the logical operators AND and odds ratio (OR) are indicated with * and +. Contradictory configurations are not included in the minimization process, but I listed them as such.

Table 4.

Caption: QCA minimization results.

Outcome (PC)	Configuration	N
C	MA*FT*fs +	9

	ma*FT*FS	
1	ma*FT*fs	2
0	ft*FS + ma*ft	5

Lower case indicates absence of condition. *: AND; +: OR.

Developing a truth table and the process of minimalization becomes more complex when more conditions are involved and when dealing with mvQCA or fsQCA. In any case, using a specialized software package for QCA will be helpful. Several are available and you can find a good overview on the website of COMPASSS (Thiem & Dusa, 2012; Compasss website). For my csQCA, I used the specialized software package “Tosmana” (Tool for Small-N Analysis) (Cronqvist, 2011). For mvQCA and fsQCA, there are other options and an open source software package that works in the R statistical computing environment is advised (Thiem & Dusa, 2012).

The last and a very important stage in QCA is re-interpreting the propositions resulting from the QCA in light of theory and the in-depth qualitative data on your cases (Schneider & Wagemann, 2010, 2012). You will be addressing the coverage and consistency of the proposition. Coverage expresses how much of the outcome is explained (covered) by a certain condition from the proposition. In my analysis, in all cases corresponding with policy change, the condition of frame contestation was present. This coverage score indicates that frame contestation is a necessary condition in configurations associated with media effects on the policy agenda. The consistency score expresses the contradictions within the formula. A high consistency score indicates a strong pattern. Based on these sensitivity tests, researchers can decide to replace or remove certain conditions, alter the threshold of how the condition or outcome is operationalized or exclude certain cases (de Block & Vis, 2018).

Minimalization is not the end-stage of QCA. Interpreting the patterns based on the rich qualitative data is a must and can also help interpret contradictory patterns in which similar configurations lead to different outcomes. As usual in QCA, there were notable exceptions to the general patterns that were identified in my study. The configurations resulting from QCA were used as a starting point for the re-interpretation of the patterns and to uncover underlying causal mechanisms and to point at avenues for future research.

The “black swan” cases in my research indicated that an issue frame being promoted by a strong coalition of policy stakeholders in the media is an important condition for a media effect to take place. These stakeholders were using media besides other lobby channels to influence the policy agenda. Furthermore, the role of the political “vestibule” to policy change should not be underestimated. Political actors were often present as sources in contesting media coverage. They made issues public via the media to gain support for their policy alternatives. Also, parliamentary debate was often an intermediary step to policy change. Finally, the stability of the government coalition behind the current policies was an important factor in media effects on the policy agenda.

Conclusions and Lessons Learned

Using QCA for analysis of media effects on the policy agenda in 16 cases of media coverage has been a valuable learning process during my PhD research. QCA brings sophistication and transparency to a process that you always go through when comparing qualitative cases: tracing differences and commonalities between the cases on conditions that you deem relevant based on theory. QCA supports this by providing structure and transparency to this process. QCA enables you to more systematically deal with a small to medium-sized set of cases and hypotheses combining various conditions.

CsQCA is a good way to start your QCA experience as it is the most basic form that can even be done without analysis software. A downside to this type of QCA is losing much of the richness of the qualitative data that you collected. Even when you bring this back in when re-interpreting the patterns that

you encountered on the basis of this in-depth data, more analytical sophistication can be achieved with mvQCA or fsQCA.

QCA helped me not to lose sight of my research question when interpreting qualitative data on a variety of 16 cases. An important lesson has also been to keep the richness of qualitative case data at the core of QCA and not to get caught up in the QCA technicalities. Bottom line is that QCA should help you to interpret your research data and it should not become a goal in itself.

Exercises and Discussion Questions

1. When is QCA a suitable methodology for case-study research?
2. What types of cases can be used for QCA in the field of political science and public administration?
3. What types of QCA exist and which are suitable for your research data?
4. What are the steps in QCA research?
5. How do you deal with contradictory cases in QCA?
6. Is QCA mainly a qualitative or quantitative research method? And what about fsQCA?

Further Reading

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Schneider, C. Q., & Wagemann, C. (2012). *Set-theoretic methods for the social sciences: A guide to qualitative comparative analysis*. Cambridge, UK: Cambridge University Press.

Web Resources

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