

# **Contribution of Companies, NGOs and other Non-public Actors to Robust Governance in Turbulent Times.**

Vicente Pina University of Zaragoza, [vpina@unizar.es](mailto:vpina@unizar.es)

Lourdes Torres University of Zaragoza, [ltorres@unizar.es](mailto:ltorres@unizar.es)

Jakob Frateur University of Antwerp, [jakob.frateur@uantwerpen.be](mailto:jakob.frateur@uantwerpen.be)

David Spacek University of Masaryk, [David.Spacek@econ.muni.cz](mailto:David.Spacek@econ.muni.cz)

## **Abstract**

This paper explores how companies, NGOs and other non-public actors contribute to robust governance in crisis situations, and to adaptation and innovation during COVID-19 pandemic. Using data from Horizon Europe's ROBUST project (35 public value solutions in 18 locations across nine European countries; 108 interviews and standardized case reports), fuzzy set Qualitative Comparative Analysis (fsQCA) is applied to identify configurations of non-public participation and coordination strategies. The findings show that non-public contribution is configurational and dynamic. Robustness is determined by combinations of actors and strategies, contingent on the trajectory of the crisis. In phase 1, robustness emerges through strong NGO participation, combined with network strategies. In phase 2, business engagement becomes more important, although network strategies remain fundamental. In the remainder phase, robustness is associated with stable hybrid coalitions (NGOs and companies) or NGO-led network coordination. Corporate involvement and NGO-led networks also encourage adaptation and innovation in crisis situations.

## **1. Introduction**

The modern global scenario is defined by an increasing number of interconnected and intersecting crises, including pandemics, economic disruptions, climate emergencies and geopolitical conflicts. These events are generating an atmosphere of social and economic turbulences. This “normality” directly undermines traditional models of public management (Ansell et al., 2024). In response to this reality, robust governance is considered a theoretical and practical framework (Ansell et al., 2015). Robust governance is defined as the ability to develop and implement effective and legitimate public value solutions to such crises with adaptive and creative policies, regulations and services (Torfing et al., 2023) aiming to balance the stability of democratic governance with the necessary adaptation and innovation in every sphere.

Robustness is based on the relationship between three pillars: 1) multi-level governance, which operates on vertical level (between government tiers: local, regional, national, and supranational) and horizontal level (between public, private and civil society actors); 2) governance hybridization, which provides an adaptable set of tools combining ranks, markets and networks to develop appropriate responses with third parties; and 3) societal intelligence, which offers negotiated expertise to substantiate and legitimize decisions. These pillars are all essential, but only when combined are they effective (Torfing et al., 2025). Rather than being a complete substitute for previous models of governance, robust

governance leverages a hybrid approach that integrates New Public Management and New Public Governance, with traditional public administration, to enable flexible and innovative adaptations (Ansell et al., 2024; Carstensen et al., 2023). These three models are representative of consecutive or overlapping governance paradigms that provide coordination tools and logics that when combined are critical for an organization to become reliable during turbulence (Carstensen et al., 2023). Nonetheless, robust governance is an alternative paradigm intended to work in an environment of such dynamism.

The repositioning of non-public actors not just to agents executing contracts, but also to co-creators of value is what this paradigm is all about. In the public service ecosystem framework described above, non-public actors use their flexibility, learning capacity, resource access, and local knowledge to influence policy making through the institution of public service environments (Knox and Arshed, 2024; Osborne et al., 2022). Inherently collaborative and distributed governing frameworks are needed to articulate how these networks function and sustain themselves, specifically under intense stress in a crisis (Ansell, 2022). Proactively enabling and developing the participation and capacities of non-public actors and explicitly structuring institutional arrangements to promote and use them is an important approach for building stronger, more creative and legitimate systems to respond to future challenges (Ansell et al., 2024, Scognamiglio et al., 2022).

This paper argues that the role of public administration today is not only the provision of services, but also the involvement of key players by facilitating and coordinating collaboration in order to deal with turbulences and recover from them more effectively. Robust governance can only be achieved through sustained engagement and collaboration between different non-public actors, including private companies, start-ups, NGOs and civil society. All these actors provide the resources, skills, knowledge and capabilities necessary to be able to take an agile, innovative and legitimate position, in the face of crisis and turbulences. This study aims to examine the role of non-public actors for innovation and adaptation of public policies in relation to the robust governance during the COVID-19 crisis. This paper is based on an extensive study of responses to the crisis in Europe, undertaken by the Horizon Europe ROBUST project in nine countries (<https://robust-crisis-governance.eu>). These comparative insights provide empirical support and practical experiences for improving the coordination, innovation, responsiveness and legitimacy of subsequent state responses. While existing research generally agrees that collaboration across levels and sectors is important during crises and recovery, the empirical literature on how collaborative practices operate and what their effects are remains fragmentary and shows limited integration across levels of governance and phases of a crisis. This is because they often focus on single mechanisms, single types of actors, and/or isolated cases.

The overall structure of the paper is as follows: after the introduction, a theoretical framework on the contribution of non-public actors to strong governance, hybrid collaboration and network strategies is presented. In the methodology, the comparative design and its case scenarios are described, together with the operationalization and calibration of the conditions and results, using fsQCA process. Following the analysis of results, the discussion highlights the practical implications, after which the conclusions are presented.

## **2. A theoretical framework for non-public actors in robust governance.**

## 2.1 Literature review

Recent literature shows evidence that the implementation of robust governance is not relegated exclusively to the public sector and that its success, in fact, depends on partnering with numerous social actors who each provide resources and expertise with a different view of the problem. Research on robust governance starts from the premise that crises generate turbulence -non-linear, unpredictable dynamics that undermine standard routines and linear planning. Against this backdrop, robust governance is not simply the capacity to “bounce back,” but the ability to preserve core public functions and values by changing how governance operates (Ansell et al., 2021). This perspective stresses that robustness is achieved through a repertoire of strategies that maintain steering capacity while allowing flexible responses, as well as the capacity to recombine resources and coordinate under uncertainty (Carstensen, 2023). Part of the literature, however, places legitimacy as a basic aspect of robust governance. Crises often further strengthen executive power and limit deliberation, leaving questions surrounding transparency, accountability and democratic quality (Knaggård & Triantafillou, 2024; Carstensen, 2024).

There are a number of publications that specifically analyze cross-sector collaboration and hybrid governance arrangements involving public authorities, civil society organizations and businesses (Kövér, 2021). Hybrid networks can strengthen resilience by leveraging complementary resources, but they can also carry risks: mission departure, uncertainty in accountability, and fragility of legitimacy (Rendall et al. (2024). The literature also highlights the intermediaries and coordinators who stabilize and “translate” collaboration among sectors and maintain trust. These actors can facilitate networks to be resilient as crises materialize, but their presence does not determine robust consequences (Farooqi & Knox, 2025).

Community groups and NGOs might act in advance to meet emerging needs providing support at ground level and gaining the confidence of local populations. In crises settings, where regular services are disrupted, such capacities are particularly important for marginalized groups. However, based on extant literature, community responses are often inconsistent, different from locality to locality and frequently hard to maintain long term, because of burnout, coordination pressures, and funding gaps (Rendall et al., 2024). A key conclusion is that civil society power adds the most to robustness when the power resides in governance relations (sharing, stable, co-production processes, and local knowledge to institutional decision-making). Lacking such integration, mutual aid may continue to be episodic, impeding its potential to facilitate adaptation and innovation after the initial shock (Kövér, 2021).

In a time of turbulence, frontline and middle-level actors often develop pragmatic workarounds and bricolage solutions that unify expert knowledge with “lifeworld” knowledge and local experiential insights as they forge out local ways of working. These processes are capable of adaptation in the face of weak formal strategies, nevertheless they might not reproduce into innovation when networks and institutions support diffusion, evaluation, and recombination (Nakrošis & Bortkevičiūtė, 2022; Knox & Arshed, 2022). Adaptation, from this perspective, means continuous revision of established policies and practices, whereas innovation has an element of novelty and institutional incorporation. Research from academia shows that innovation is more likely when learning becomes collective and networked, sustained through the support of

collaborative infrastructures that go beyond the random improvisation of isolated action and foster cumulative transformations (Nakrošis & Bortkevičiūtė, 2022).

Together, these issues support two conclusions. First, the non-public actor's contribution can be understood in terms of configurational, where firms, NGOs, etc. influence outcomes through hybrid, networked arrangements that also rely on legitimacy, multilevel dynamics, and the circulation of knowledge. Second, robustness, adaptation and innovation should not be treated as having parallel drivers: robustness, as the literature indicates, might be realized in diverse ways (e.g., civic mobilization, hybrid coalitions) whereas adaptation requires mechanisms of learning and continuous adjustment, and innovation is best linked to sustained collaborative infrastructures and cross-level knowledge/resource flows. However, empirical work typically tends to treat actor involvement as additive or relies on single-mechanism explanations. This motivates the application of a set-theoretic approach (fsQCA) to capture alternative combinations of actor engagement and coordination strategies that are related to successful crisis governance and its outcomes across time.

## 2.2 Change management in theory: hierarchical vs collaborative ecosystems.

To better see the significant role played by non-public actors in the governance of global crisis today, it is key to look at the evolution of governance models. It has been shown that the bureaucratic approach with its hierarchical controls fails to solve what are often referred to as the 'wicked problems' that shape the public discourse (Torfing et al., 2025). These constraints have led to the move away from hierarchical models and transactional, linear models of New Public Management towards relational models.

A fundamental aspect of New Public Management was outsourcing and public-private partnerships, which structured service delivery in market-oriented terms, such as efficiency, customer focus, and administrative flexibility (Pina and Torres 2004; Mazzucato and Kattel, 2020). Although interaction between public and private actors remains central to policy implementation, informal networks and partnerships, guided by New Public Governance doctrine (Osborne, 2006) are gaining recognition as a viable and credible method of governance (Knox and Arshed 2024; Ansell et al., 2022). Since then, the recognition of public service ecosystem has increased. New Public Management is about efficiency via managed networks and public service ecosystem is about the co-creation of public value through systems of interdependent, loosely connected actors free from centralized control (Knox and Arshed, 2024, Ansell et al., 2024). Robust governance assumes that these governance paradigms do not replace each other, but rather coexist and hybridize (Torfing et al., 2025; Micacchi et al., 2025). Hierarchical bureaucracy provides order, but can be too rigid for complex problems (Rittel and Webber, 1973). This has promoted network governance and public service ecosystems in which service delivery and value creation extend beyond the state (Knox, 2024). In practice, robust crisis governance often relies on hybrid arrangements that combine hierarchical direction with network coordination and, at times, market incentives. However, networks can also generate collaborative inertia and higher transaction costs (Huxham, 2003; Torres et al., 2023).

Crises and turbulence promote cooperation and so collaborations with the non-governmental sector are fundamental in delivering what is an effective and legitimate response (Klijn & Koppenjan, 2016). They mobilize the capabilities and knowledge spread throughout society (Mazzucato, 2020). This shift to public service ecosystem

allows for functional mechanisms, from the co-creation of social intelligence to institutional bricolage, that drives strong governance (Leite and Hodgkinson, 2021; Boucher et al. (2023).

### 2.3 The multifaceted contribution of non-public actors to robust governance in turbulent times.

The concept ‘non-public entities/actors’ includes multiple organizations with their own distinct roles, capabilities and motivations. This ecosystem is anything but a monolithic block. It is comprised of actors who perform complementary functions in crisis governance. Beyond knowing the identities of these actors, it is important to recognize how their presence contributes to new, adaptive governance and innovation. The main categories of non-public actors are described below.

#### *Intermediary organizations and social enterprises*

Such organizations play an inter-institutional role; they serve as a bridge between governments, local communities, and service providers. They are critical to sustaining the legitimacy of the system, because they negotiate and align the expectations of various actors. Intermediary social enterprises are those who play a pivotal role in such activities during global pandemic which involve putting resources into volunteer organizations and neighborhood associations (Farooqi & Knox, 2025) to provide the solution of emergency financing and convert the policy into an implementation level initiative.

#### *Private industries (companies and startups)*

They promote resources, agility and innovation at a rate that the public sector often cannot match. In the context of the public sector, the "Hack the Crisis" hackathon in Estonia, organized jointly with the private company Garage48, utilized the startup ecosystem to accelerate the development of digital solutions to problems caused by the crisis. Donations from private companies significantly assisted in providing digital machinery for children in Belgium and Spain, so that they could attend school online on a large scale (ROBUST project, 2025).

#### *Non-governmental organizations (NGOs) and civil society organizations;*

They serve as frontline service providers, particularly for the most vulnerable groups. A deep understanding of the community and their closeness to communities makes them credible providers of information. Civil society organizations in Spain and Italy were a central player in reception of the refugees (Zardo et al., 2023). Volunteer and community associations can mobilize quickly through trust-based local networks. During COVID-19, many countries experienced an “explosion of volunteering”, and some localities integrated neighbourhood groups into crisis coordination and translation of guidance to the local level (ROBUST project, 2025; Kövér, 2021).

### 2.4 Main mechanisms through which non-public actors support robust, innovative and adaptive governance.

Non-public entities contribute to robust governance through the following four capabilities. Without them, the governance system becomes fragile in the face of turbulence (Torfing, 2025).

*The capacity for proactive innovation, strategic bricolage and local adaptation.*

Non-public actors may contribute through proactive innovation and bricolage, i.e., the creative recombination of existing tools and resources for new uses (Torfing et al., 2025). Rather than starting from scratch, these initiatives often reuse existing infrastructure and social networks, enabling rapid experimentation despite the constraints imposed by the crisis. For instance, Estonia's "Hack the Crisis" mobilized start-up capabilities to rapidly prototype digital responses, and vaccination strategies in Spain and Flanders were adjusted to local needs through regional and local engagement (ROBUST project, 2025).

*The capacity to co-create value through adaptable services.*

Beyond innovation, non-public entities often deliver services and mobilize resources faster than bureaucratic systems, due to agility and proximity to users (Scognamiglio, 2022; Blamire and Rees 2025). During the pandemic, this included emergency funding and support infrastructures for social enterprises and community groups (Farooqi & Knox, 2025), targeted support to vulnerable families and children in several localities (ROBUST project, 2025), and assistance to migrants and refugees (Zardo et al., 2023). Intermediary organizations can reduce coordination costs by facilitating relationships, shared information, and aligning routines between organizations, which helps sustain support beyond specific emergency actions (Farooqi & Knox, 2025). Overall, these contributions enhance robustness by matching volatile demand and stabilizing service ecosystems (Scognamiglio et al., 2022).

*The capacity to generate and maintain the legitimacy of the governance network.*

During crises, governance comes down to not only operational functioning but also legitimacy. These non-public entities, especially intermediate entities, can contribute to the collective legitimacy of governance networks. This is important for balancing the competing demands of different stakeholders, like policymakers who want to ensure regulatory compliance, social enterprises that want flexible investment in finance, and communities that want the rapid allocation of resources (Farooqi & Knox, 2025). In areas where trust in public institutions is low, civil society agencies have a chance to establish credibility and gain the trust of communities that might otherwise be hesitant or even distrustful (ROBUST project, 2025).

*The capacity to facilitate interaction, coordination and connection with other hybrid governance actors.*

Modern governance leads hybrid models that combine hierarchical (control and authority), market (incentives and competition), and network (collaboration and trust) logics (ROBUST project, 2025). Where hierarchy combines with networks to provide necessary speed and clarity in coordination, which is essential during a crisis. Networks provide closeness, social support and diversity of perspectives that give legitimacy to guidelines (Micacchi et al., 2025). The market-network combination employs incentives to mobilize latent resources in the market while improving cooperation between and

among competing actors and forces (Sørensen and Torfing 2024). This allows robustness strategies to adopt responsive and proactive, real-time innovation, such as in the form of public-private cooperation on certain projects (Ansell et al., 2024).

### **3. Methodology**

#### **3.1 The sample**

This study explored 18 "networked localities" in nine European countries. For comparability, these localities were selected for a population size of around 80,000 - 400,000 people. 35 "public value solutions" were examined (two initiatives in each locality of child wellbeing during COVID-19). The list of countries and their respective cities include: Belgium: Antwerp and Kortrijk; Czechia: Northern Bohemia and Tesustacy; Denmark: Middelfart and Roskilde; Estonia: Tallinn and Tartu; Hungary: two districts within a large city/Budapest; Italy: Ferrara and Reggio Emilia; Norway: a large southern municipality and a mid-sized municipality; Spain: Cáceres and Zaragoza; and The Netherlands: Utrecht and Deventer.

An aggregate of 108 semi-structured interviews were conducted across the entire research consortium to gather primary data. Interviewees comprised: national, regional and local policymakers; directors of public health agencies; central government representatives; staff of civil society organizations; task force members and experts; journalists. For each analyzed public value solution, the protocol required five interviews from five different key players. Interviews and document collection were between April and October 2024.

The questions were divided into three main sections: i) understanding the response to the crisis, its implementation and social impact; ii) reflection on the drivers and barriers to adaptation and innovation; and iii) the particular experiences and challenges of the different actors. The joint data collection template was 22 pages long and was designed to incorporate the flexibility needed to accommodate the peculiarities of each national context.

A systematic and methodical process for data collecting and coding was performed: two primary instruments comprised the interview guides with eight questions and numerous (sub-questions targeting issues that revolve around turbulence, multilevel governance, hybridization, social intelligence, and a case report form. Researchers filled out the form, which consists of 67 questions or scoring sections based on information collected in the interviews (ROBUST project D7.2, 2025).

#### **3.2 Qualitative Comparative Analysis (QCA)**

Data were analyzed using Qualitative Comparative Analysis (QCA). QCA is one of the analytical frameworks that can help in expanding beyond single-factor explanations and in seeking ways to integrate various governance combinations into jointly stronger crisis response mechanisms. This approach makes it possible to find different routes that lead to the same result. The report calls this equifinality. Instead of trying to see whether a single factor explains a result, QCA finds just the types of configurations of conditions (compounds thereof) that are consistently associated with the presence or absence of a given result (Schneider and Wagemann 2012). This allows us to explore the complex of governance factors or actor strategies working together to produce robustness in turbulent

times. The approach assumes that outcomes in intricate contexts, such as pandemic governance, seldom stem from isolated processes, but rather combinations of multiple causes.

The variant applied here, fuzzy-set QCA (fsQCA), enhances analytical accuracy by assigning graded membership scores to conditions and outcomes rather than binary classification (Ragin 2008; Schneider and Wagemann 2012). In contrast to classical binary classifications, which present or absent something, fsQCA acknowledges that social realities are a matter of degree. For this purpose, the analysis relies on the most parsimonious solution as there are no clear directional expectations, and it shows the solution in its ‘simplest’ form. The analysis also employs an enhanced standard analysis to identify and mitigate possible contradictory simplifying assumptions, contradictory easy counterfactuals and/or simultaneous subset relations (Schneider and Wagemann 2012).

### 3.3 Conditions, outcomes and phases.

In accordance with the findings in the relevant literature, four conditions focused on non-public participation and governance have been designed: participation of local NGOs/civil society, participation of local corporations, multi-level participation of non-public actors, and network strategies, such as distributed coordination, collaborative platforms, and bricolage.

Condition	Plain meaning
NGO_LOC	High involvement of local NGOs / civil society organizations.
CORP_LOC	High involvement of local companies / corporate actors.
NONPUB_MLG	High mention/involvement of non-public actors across multiple territorial levels (regional/national/international).
NET_STRAT	Strong network-based strategies (distributed networks, collaborative platforms, and bricolage/bricoleurs).

The main outcome is ROBUST (robust governance in crisis situations). We also examine adaptation (ADAPT) and innovation (INNOV) as complementary outcomes to reflect adjustment and novelty in crisis responses.

In the analysis of the evolution of the crisis response, three phases are distinguished, running fsQCA separately for each of the three phases: Phase 1 (initial emergency response), Phase 2 (consolidation in the middle of the crisis) and the remaining phase (subsequent normalization). This phase-based design is motivated because the roles of actors, the availability of resources, and coordination mechanisms may change across phases, which may result in different sufficient configurations for the same outcome.

### 3.4 Hypotheses from the literature

Based on the analysis of the literature discussed above on robust governance during periods of turbulent transitions, the hybrid and multilevel nature of collaboration, and the basis of learning and the bricolage process, we expect the contribution of non-public actors to be configurational, rather than additive. Accordingly, we propose four hypotheses:

H1 (Civic mobilization): civic society participation at its high level (NGO\_LOC) will contribute to strong governance in times of crisis (ROBUST), particularly at the initial stage as a direct access to societal needs and trust can strengthen problem detection and fast adaptation.

H2 (Network infrastructure): network strategy (NET\_STRAT), distributed coordination, collaborative platforms, and bricolage can be a central enabling condition to ROBUST and for innovation (INNOV) in particular as these infrastructures also facilitate experimentation and spread between actors.

H3 (Hybrid coalitions and scalability): corporate participation (CORP\_LOC) should aid ROBUST and ADAPT; but is likely to be particularly effective when negotiating with hybrid coalitions or network agreements (e.g., CORP\_LOC with NGO\_LOC or NET\_STRAT) as companies might provide resources and capacity to develop such arrangements but must also be ensured compliance and legitimacy.

H4 (Multi-level non-public participation): multi-level engagement of non-public actors (NONPUB\_MLG) is expected to strengthen ADAPT and INNOV, using NET\_STRAT, as interactions between levels broaden the resources and knowledge pathways, and facilitate the diffusion and institutionalization of new practices.

#### *Analytical scope*

For ADAPT and INNOV, we focus on sufficiency analyses for the presence of the outcome, in line with our theoretical expectations about enabling configurations. Additional analyses for the absence of these outcomes and for the remainder phase were explored but produced unstable/low-leverage solutions given limited variation and interpretability; they are therefore omitted to keep the paper focused.

### **3.5 Operationalization and calibration**

Calibration followed a two-step procedure. First, interview-based case reports were coded using a shared template and scoring guidance across the consortium, producing graded assessments of actor involvement and governance features. Second, selected items were aggregated into the four analytical conditions and calibrated them into fuzzy-set membership scores using a four-value scheme (0, 0.33, 0.67, 1), representing full non-membership, more-out-than-in, more-in-than-out, and full membership. Aggregations (e.g., for ROBUST and NET\_STRAT) were designed to preserve conceptual alignment with robust governance and network-strategy constructs while ensuring cross-case comparability.

## **4. Analysis of QCA results**

As mentioned above, QCA searches for "recipes" of (configurations of) conditions found where an outcome occurs. Instead of inferring a net effect of each variable as in regression, it asks: "When these conditions appear together, do we usually observe the outcome?" The conditions and their plain-language meanings are defined in the Methodology section (see the 'Conditions, outcomes and phases subsection), together with the calibration approach.

### **Main outcome: ROBUST (robust governance in crisis situations)**

#### Phase 1

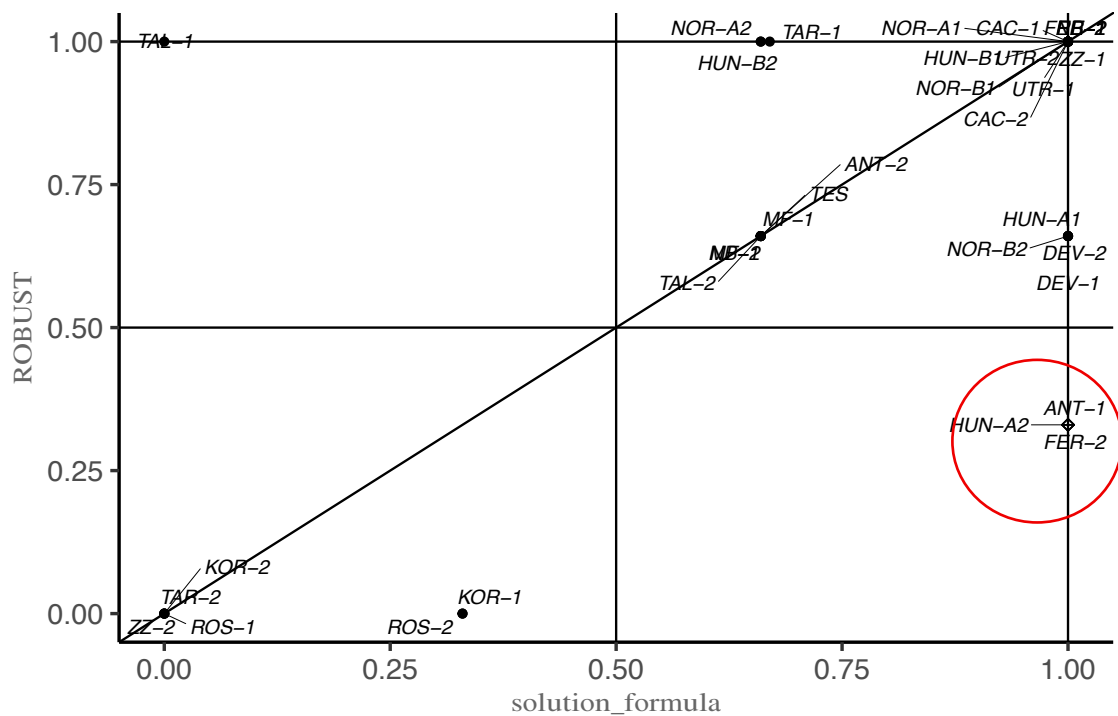
As standard practice in QCA, we first conducted a necessity analysis, though we did not identify any necessary or SUIN conditions. As indicated, for the analysis of sufficiency, we rely on the most parsimonious solution. For this analysis, after the enhanced standard analysis (ESA), we use the most parsimonious solution after mitigating for contradictory simplifying assumptions (CSAs).

Pathways	Configuration	Cases covered (n)
1	NGO LOC	17
2	~CORP LOC*NET STRAT	18
3	NONPUB MLG*NET STRAT	12

Key solution paths. Sufficiency analysis identifies 3 pathways in this phase. Solution fit<sup>1</sup>: Consistency = 0.843; Coverage = 0.915; PRI = 0.810.

### Sufficiency Plot

Cons.Suf: 0.843; Cov.Suf: 0.915; PRI: 0.810



```

M1: NGOLOC + ~CORPLOC*STRAT + MLG*STRAT -> ROBUST
-----
      inclS  PRI  covS  covU  cases
-----
1      NGOLOC  0.845  0.808  0.619  0.212  UTR-1; ANT-1,FER-1,FER-2,RE-2; ANT-2,HUN-A2,DEV-1; TES,HUN-A1,NOR-B1,UTR-2; RE-1,DEV-2; CAC-1,ZZ-1,CAC-2
2  ~CORPLOC*STRAT  0.892  0.859  0.591  0.169  MF-1,MF-2,TAL-2,HUN-B2,NOR-A1,NOR-B2; NB-1,NB-2,TAR-1,NOR-A2; ANT-1,FER-1,FER-2,RE-2; TES,HUN-A1,NOR-B1,UTR-2
3      MLG*STRAT  0.966  0.959  0.407  0.042  NB-1,NB-2,TAR-1,NOR-A2; HUN-B1; TES,HUN-A1,NOR-B1,UTR-2; CAC-1,ZZ-1,CAC-2
-----
M1  0.843  0.810  0.915
  
```

In Phase 1, the adequacy results point to three alternative paths (equifinality) through which robust crisis governance can be achieved. First, high participation by local NGOs (NGO\_LOC) may be sufficient on its own, as illustrated by UTR-2 (Utrecht), which combines NGO\_LOC=1.00 with ROBUST\_w1=1.00. Second, robustness can also emerge from strong network strategies in the absence of strong corporate involvement

<sup>1</sup> Key quality indicators: Consistency (0–1): how reliably the pathway is associated with the outcome. Higher is better (often ≥0.80). Coverage (0–1): how much of the outcome the pathway/solution explains (similar to "how many outcome cases are covered"). PRI (0–1): a check against contradictory cases (higher values indicate less contradiction).

( $\sim$ CORP\_LOC\*NET\_STRAT), as exemplified by RE-2 (Reggio Emilia) (CORP\_LOC = 0.00; NET\_STRAT  $\approx$  0.78; ROBUST\_w1 = 0.66), suggesting that distributed coordination and bricolage approaches can compensate for weaker business mobilisation in the early stages. Thirdly, robustness is supported by multi-level non-public involvement combined with network strategies (NONPUB\_MLG\*NET\_STRAT), as in CAC-1 (Cáceres) (NONPUB\_MLG = 1.00; NET\_STRAT  $\approx$  0.77; ROBUST\_w1=0.66).

**Interpretation:** In the initial phase of the crisis, robust governance is often linked to high rates of local NGO/civil society engagement. Strong governance cannot be eliminated at least if corporate involvement is low, nevertheless it can be ensured provided that network strategies are sufficient (deployments of decentralized coordination, collaborative platforms, bricolage). A different way to do so is multi-level inclusion of non-public actors paired with network strategies  
DCKs<sup>2</sup> ANT-1, HUN-A2, FER-2

ANT-1: NGO\_LOC  $\approx$  1.00 and NET\_STRAT  $\approx$  0.66, yet ROBUST  $\approx$  0.33. The case suggests that early coordination existed but did not translate into robust performance due to implementation constraints and timing/coverage limitations in the initial response.

HUN-A2: NGO\_LOC  $\approx$  1.00 and NONPUB\_MLG  $\approx$  0.66, but NET\_STRAT  $\approx$  0.33 and ROBUST  $\approx$  0.33. Despite strong civic engagement, the response appears weakly institutionalised and less able to generate stable coordination and learning in Wave 1.

FER-2: NET\_STRAT  $\approx$  0.78 and NGO\_LOC  $\approx$  0.66, but ROBUST  $\approx$  0.33, with CORP\_LOC and NONPUB\_MLG low/absent. Qualitative evidence points to a maturation/scale issue (network infrastructure consolidates later) and a participation bias that limits early effectiveness.

## Phase 2

Again, we found no necessary or SUIIN conditions. Also here, we use the most parsimonious solution after mitigating for CSAs that were identified in the ESA.

Pathway	Configuration	Cases covered (n)
1	CORP LOC	9
2	NET STRAT	25
3	NGO LOC*NONPUB MLG	10

Key solution paths. Sufficiency analysis identifies 3 pathways in this phase.

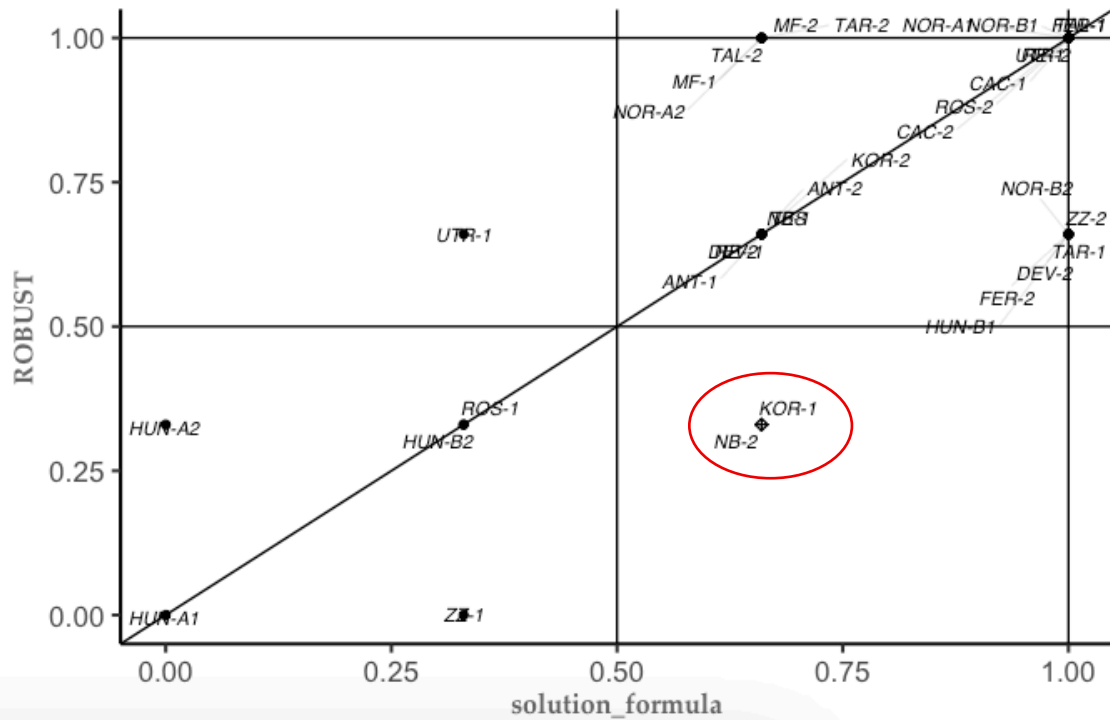
Solution fit: Consistency = 0.881; Coverage = 0.905; PRI = 0.845.

---

<sup>2</sup>DCKs/DOCKs = Deviant Outcome Cases in kind. The deviation is qualitative (of “type”), i.e., the case behaves contrary to what the configuration (the ‘recipe’) of the solution predicts. In practice, when DOCKs appear in the report, they are flagging cases for qualitative review because: either they have the outcome (e.g., high ROBUST) but do not show the conditions/configurations that should produce it (‘robustness without the recipe’), or they comply with the recipe (high solution membership) but do not have the outcome (this is sometimes labelled DCK, depending on the author/report). They help to detect (i) omitted conditions, (ii) calibration/coding problems, or (iii) alternative mechanisms that the model does not capture.

# Sufficiency Plot

Cons.Suf: 0.881; Cov.Suf: 0.905; PRI: 0.845



	inclS	PRI	covS	covU	
1	CORPLOC	0.899	0.883	0.360	0.040
2	STRAT	0.910	0.880	0.825	0.360
3	NGOLOC*MLG	1.000	1.000	0.318	0.040
-----					
M1		0.881	0.845	0.905	

	cases
1	CORPLOC TAL-1,ZZ-2; ROS-2; HUN-B1; DEV-2; MF-1,RE-1,CAC-1,CAC-2
2	STRAT KOR-1,MF-2,TAR-2,TAL-2,NOR-A1,NOR-B2; NB-1,NB-2,TAR-1,NOR-A2; ROS-2; HUN-B1; ANT-1,FER-1,FER-2,RE-2; ANT-2,TES,NOR-B1,UTR-2; DEV-2; MF-1,RE-1,CAC-1,CAC-2
3	NGOLOC*MLG KOR-2,DEV-1; ANT-2,TES,NOR-B1,UTR-2; MF-1,RE-1,CAC-1,CAC-2

In Phase 2, one path is high business participation (CORP\_LOC), illustrated by ROS-2 (Roskilde), when CORP\_LOC=1.00 and ROBUST\_w2=1.00, indicating that business agents can become more visible co-producers of robust governance. A second pathway highlights network strategies as an independent route (NET\_STRAT), again exemplified by UTR-2 (NET\_STRAT≈0.89; ROBUST\_w2=1.00), consistent with the idea that coordination infrastructures maintain performance over time. A third pathway is the combination of strong local NGOs and non-public multilevel mobilisation (NGO\_LOC\*NONPUB\_MLG), illustrated by MF-1 (Middelfart municipality) (NGO\_LOC=0.66; NONPUB\_MLG=0.66; ROBUST\_w2=1.00), suggesting that capacity and support across levels can reinforce robust governance even without exceptionally high scores on network strategy.

**Interpretation:** Halfway between the two, two trends can be observed: (1) corporate actors are more visible in certain cases; (2) network strategies emerge as a path to robustness. A third path integrates local NGOs at multiple levels, indicating that hybrid coalitions and scaling across different levels are important once the crisis response stabilises. Despite this, NET\_STRAT and ROBUST have a skewed distribution.

DCKs: KOR-1, NB-2

KOR-1: STRAT  $\approx$  0.66 (present and significant), while ROBUST  $\approx$  0.33 and NB-2: STRAT  $\approx$  0.66, but ROBUST  $\approx$  0.33. This appears to be more fragmentation than coordinated integration. Welfare initiatives remain located and isolated (usually from schools) and integration into the overall system has been minimal; NGOs are unevenly engaged and are sometimes not included as central components of organisational coordination routines.

Remainder phase

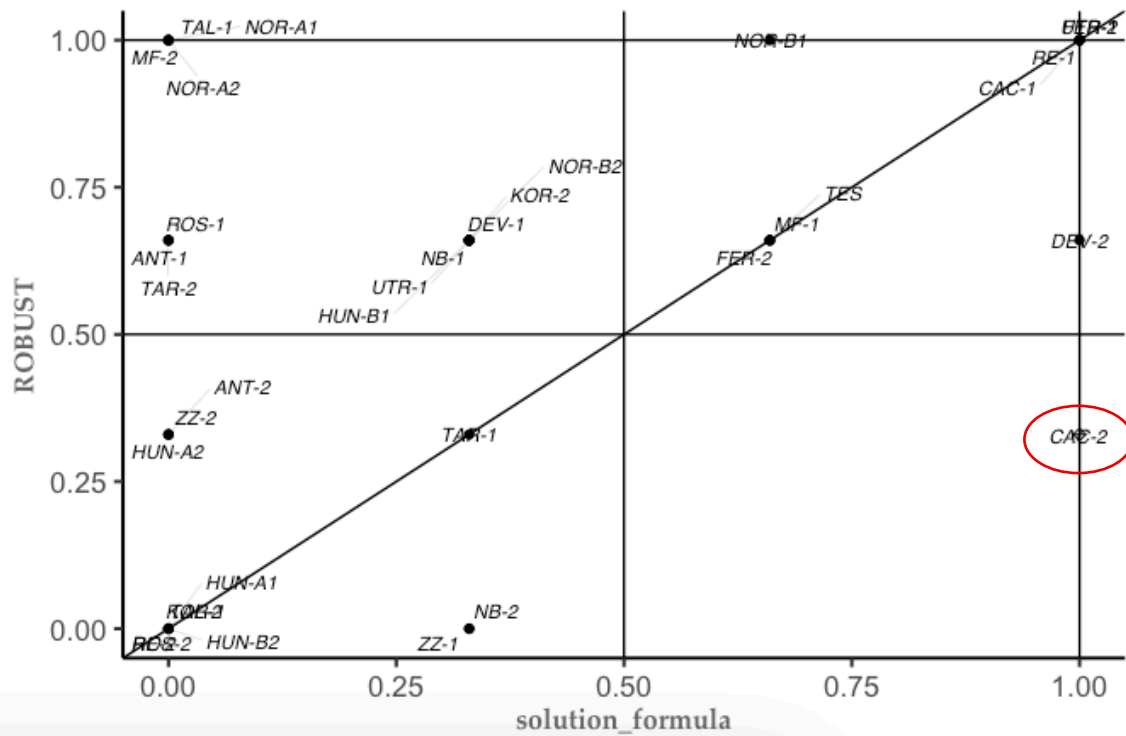
Again, we found no necessary or SUIIN conditions. Also here, we use the most parsimonious solution after mitigating for CSAs that were identified in the ESA.

Pathway	Configuration	Cases covered (n)
1	NGO LOC*CORP LOC	5
2	NGO LOC*NET STRAT	8

Key solution paths. Sufficiency analysis identifies 2 pathways in this phase. Solution fit: Consistency = 0.856; Coverage = 0.517; PRI = 0.781.

### Sufficiency Plot

Cons.Suf: 0.856; Cov.Suf: 0.517; PRI: 0.781



M1: NGOLOC\*CORPLOC + NGOLOC\*STRAT -> ROBUST

	inclS	PRI	covS	covU	cases	
1	NGOLOC*CORPLOC	0.776	0.689	0.241	0.035	DEV-2; CAC-1,CAC-2; MF-1,RE-1
2	NGOLOC*STRAT	0.966	0.941	0.482	0.276	FER-1,FER-2; TES,NOR-B1,UTR-2; DEV-2; MF-1,RE-1
M1		0.856	0.781	0.517		

In the remaining phase, the sufficiency analysis indicates that there are fewer pathways to robustness, but that these are more 'coalitional'. One configuration emphasises hybrid local coalitions of civic and corporate actors (NGO\_LOC\*CORP\_LOC), illustrated by

RE-1 (NGO\_LOC=1.00; CORP\_LOC=1.00; ROBUST\_w3=0.66), pointing to the importance of sustained cross-sectoral harmonisation as the crisis normalises. A second pathway links robustness to NGO participation combined with strong network strategies (NGO\_LOC\*NET\_STRAT), exemplified by UTR-2 (NGO\_LOC = 1.00; NET\_STRAT  $\approx$  0.89; ROBUST\_w3 = 1.00), suggesting that continuity in collaborative routines and coordination platforms helps maintain robust governance beyond the crisis. NET\_STRAT $\approx$ 0.89; ROBUST\_w3=1.00), suggesting that continuity in collaborative routines and coordination platforms helps maintain robust governance beyond the severe phase.

**Interpretation:** In the latter phase ('rest'), the model explains a smaller proportion of robust cases. Robust governance is mainly related to stable local hybrid coalitions (NGOs + companies together) or to coordination led by NGOs and supported by network strategies. The model can explain a smaller proportion of robust cases when moving to the second phase. The lack of coverage may indicate that other factors (institutionalisation, fatigue, changing priorities, etc.) not included in this study moderate robustness in the late phase.

#### DCKs CAC-2

The CAC-2 changes from STRAT = 1.00, ROBUST = 1.00 (wave 1-2) to STRAT  $\approx$  0.33 and ROBUST  $\approx$  0.33 in the rest, despite NGOLOC = 1.00 and CORPLOC = 1.00. This case study suggests a de-intensification and 'normalisation' of governance. At the same time, the report describes an internal hierarchical system in which commissions and local/regional authorities remain responsible for decision-making, with non-public actors primarily performing support/operational functions; Red-Cor itself is described as internally hierarchical and therefore inactive.

#### *When robustness is absent (~ROBUST): a short diagnostic*

It is standard practice in QCA to run the analysis for both the presence and absence of the outcome given the feature of asymmetry of QCA –explanations of the presence and absence are not necessary opposite of each other (Schneider and Wagemann 2010). Because we are mostly interested in the presence of the outcome and selected our conditions based on that, the solution for the absence of ROBUST governance covers less cases and is less extensive. This is not necessarily a problem, but it should be kept in mind when interpreting the results and their generalization to other cases. Across waves, the most consistent story is that low involvement of both non-public actors and network strategies is associated with ~ROBUST.

#### Phase 1 (~ROBUST)

We identified no necessary or SUIN conditions, while the most parsimonious solution only yielded one solution path:

Configuration	Cases covered (n)
<u>~NGO LOC*~CORP LOC*~NONPUB MLG*~NET STRAT</u>	4

Key solution paths. Sufficiency analysis identifies 1 configuration(s) in this phase  
Solution fit: Consistency = 0.937; PRI = 0.915; Coverage = 0.441.

M1: ~NGOLOC\*~CORPLOC\*~MLG\*~STRAT -> ~ROBUST

	inclS	PRI	covS	covU	cases
1 ~NGOLOC*~CORPLOC*~MLG*~STRAT	0.937	0.915	0.441	-	KOR-1,KOR-2,ROS-1,TAR-2
M1	0.937	0.915	0.441		

**Interpretation:** where neither NGOs nor companies are engaged and network strategies are weak, governance is rarely robust.

Phase 2 (~ROBUST)

Necessity analysis: No necessary conditions identified.

Most parsimonious sufficient solution:

Configuration	Cases covered (n)
~NGO LOC*~CORP LOC*~NET STRAT	4

Key solution paths. Sufficiency analysis identifies 1 configuration(s) in this phase.

Solution fit: Consistency = 0.748; PRI = 0.582; Coverage = 0.500.

This again shows that the model is better in explaining the presence of the outcome (ROBUST governance) than its absence, which is not uncommon as we are mostly interested in explaining robust governance and not its absence. Other potential problems with this analysis are the low consistency value as well as the low PRI.

M1: ~NGOLOC\*~CORPLOC\*~STRAT -> ~ROBUST

	inclS	PRI	covS	covU	cases
1 ~NGOLOC*~CORPLOC*~STRAT	0.748	0.582	0.500	-	ROS-1,HUN-A1,HUN-B2,ZZ-1
M1	0.748	0.582	0.500		

**Interpretation:** where neither NGOs nor companies are engaged and network strategies are weak, governance is rarely robust.

Remainder (~ROBUST)

Necessity analysis: No necessary conditions identified.

Most parsimonious sufficient solution:

Configuration	Cases covered (n)
~NGO LOC*~CORP LOC*~NET STRAT	9
~CORP LOC*NONPUB MLG*~NET STRAT	4

Key solution paths. Sufficiency analysis identifies 2 configuration(s) in this phase

Solution fit: Consistency = 0.815; PRI = 0.741; Coverage = 0.554..

Interpretation where neither NGOs nor companies are engaged and network strategies are weak, governance is rarely robust.

## ADAPTation and INNOVation (optional outcomes)

**Outcome: ADAPT**

Phase 1

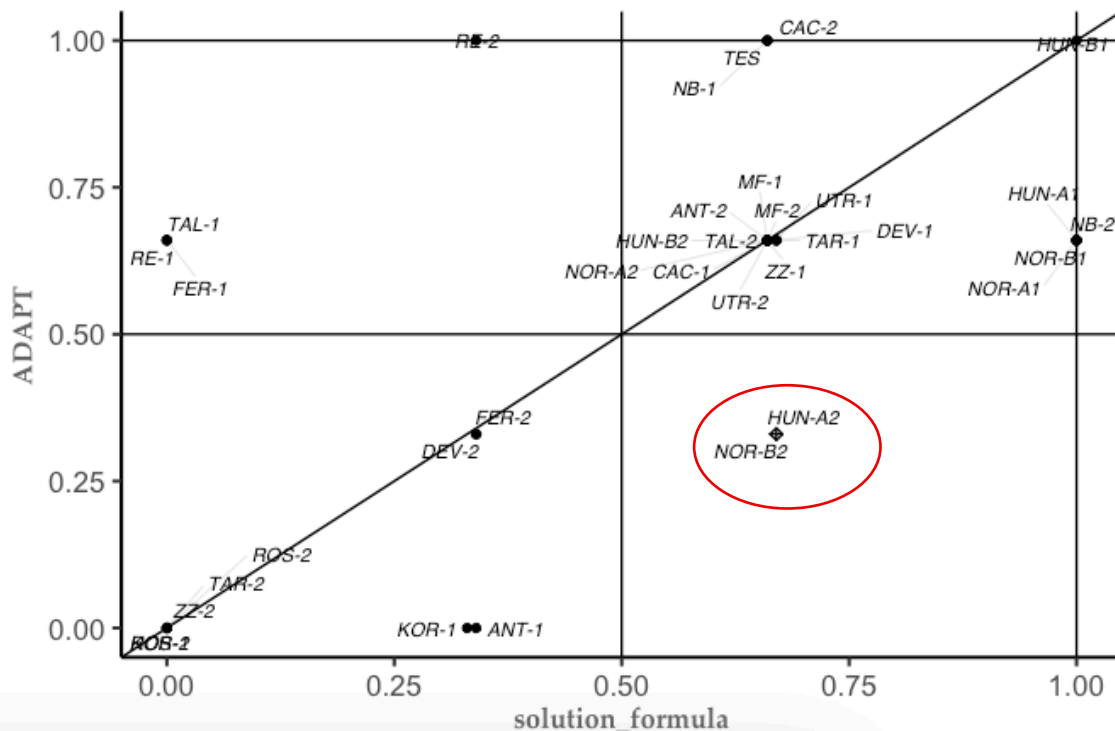
We found no necessary conditions, while the analysis of sufficiency yielded the following solution:

Configuration	Cases (n)
NGO LOC*~NET STRAT	4
~NGO LOC*~CORP LOC*NET STRAT	10
NONPUB MLG*NET STRAT	12

Key solution paths. Sufficiency analysis identifies 3 configuration(s) in this phase.  
 Solution fit: Consistency = 0.846; PRI = 0.754; Coverage = 0.806.

## Sufficiency Plot

Cons.Suf: 0.846; Cov.Suf: 0.806; PRI: 0.754



M1: NGOLOC\*~STRAT + MLG\*STRAT + ~NGOLOC\*~CORPLOC\*STRAT -> ADAPT

	inclS	PRI	covS	covU	cases	
1	NGOLOC*~STRAT	0.837	0.735	0.194	0.123	UTR-1; ANT-2,HUN-A2,DEV-1
2	MLG*STRAT	0.897	0.845	0.473	0.226	NB-1,NB-2,TAR-1,NOR-A2; HUN-B1; TES,HUN-A1,NOR-B1,UTR-2; CAC-1,ZZ-1,CAC-2
3	~NGOLOC*~CORPLOC*STRAT	0.884	0.789	0.422	0.210	MF-1,MF-2,TAL-2,HUN-B2,NOR-A1,NOR-B2; NB-1,NB-2,TAR-1,NOR-A2
-----						
M1		0.846	0.754	0.806		

For ADAPT in Wave 1, the results again show equifinality, but with pathways emphasising *early adjustment mechanisms*. **First**, strong NGO mobilisation, together with a weaker network infrastructure (NGO\_LOC\*~NET\_STRAT), can continue to result in adaptation, as illustrated by **CAC-2** (NGO\_LOC = 1.00; NET\_STRAT ≈ 0.33; ADAPT\_w1=1.00), consistent with rapid adjustments driven by needs and led by civic actors even before network routines fully mature. **Second**, adaptation can occur through network strategies despite low participation by NGOs and local corporations (~NGO\_LOC~CORP\_LOC\*NET\_STRAT), as demonstrated by **NOR-A2** (Norway) (NGO\_LOC = 0.00; CORP\_LOC = 0.33; NET\_STRAT ≈ 0.66; ADAPT\_w1=0.66), suggesting that distributed coordination can substitute for weaker actor mobilisation.

**Third**, non-public multilevel mobilisation combined with network strategies (NONPUB\_MLG\*NET\_STRAT) is illustrated by **CAC-1** (NONPUB\_MLG=1.00; NET\_STRAT≈0.77; ADAPT\_w1=0.66), indicating that resource and knowledge flows between different levels can support early adaptation.

DCKs: HUN-A2, NOR-B2.

HUN-A2 and NOR-B2: NGO\_LOC is very high, but ADAPT remains low/moderate (≈0.33). It’s a “coordination without adaptation,” where civic mobilisation alone did not produce systematic adjustment in Phase 1, suggesting limited institutional learning or constraints (e.g., coordination routines not yet consolidated, or rigid rules limiting policy recalibration).

Phase 2

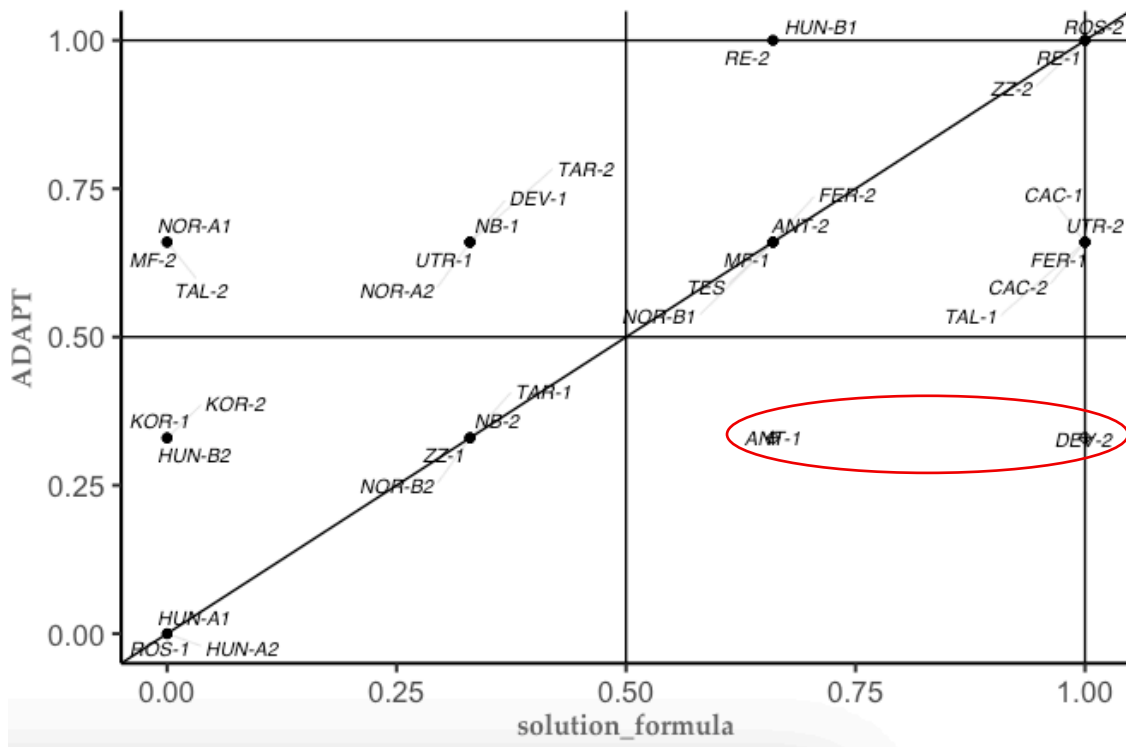
Again, we found no necessary conditions, while the analysis of sufficiency yielded the following solution:

Configuration	Cases (n)
CORP LOC	9
NGO_LOC*NET_STRAT	13

Key solution paths. Sufficiency analysis identifies 2 configuration(s) in this phase. Solution fit: Consistency = 0.843; PRI = 0.736; Coverage = 0.733; PRI = 0.736.

### Sufficiency Plot

Cons.Suf: 0.843; Cov.Suf: 0.733; PRI: 0.736



M1: CORPLOC + NGOLOC\*STRAT -> ADAPT

		inclS	PRI	covS	covU	cases
1	CORPLOC	0.830	0.745	0.417	0.184	TAL-1,ZZ-2; ROS-2; HUN-B1; DEV-2; MF-1,RE-1,CAC-1,CAC-2
2	NGOLOC*STRAT	0.844	0.720	0.549	0.316	ANT-1,FER-1,FER-2,RE-2; ANT-2,TES,NOR-B1,UTR-2; DEV-2; MF-1,RE-1,CAC-1,CAC-2
<hr/>						
	M1	0.843	0.736	0.733		

In Phase 2, ADAPT is explained by two relatively clear solution pathways. One pathway is corporate participation (CORP\_LOC), illustrated by **ROS-2** (CORP\_LOC = 1.00; ADAPT\_w2=1.00), suggesting that firms can support scaling, operational adjustment, or implementation capacity once systems stabilise. The second pathway is the combination of NGO involvement and network strategies (NGO\_LOC\*NET\_STRAT), illustrated by **RE-1** (NGO\_LOC=1.00; NET\_STRAT≈0.81; ADAPT\_w2=1.00), consistent with the idea that adaptation in the consolidation phase is facilitated when civic actors operate through durable coordination frameworks.

**Interpretation:** This aligns with a transition from emergency improvisation to more structured responses. At the same time, adaptation remains strongly linked to civic actors implicit in distributed coordination. Globally, adaptive change is more likely when engagement is combined with network forms that enable learning and recalibration as conditions evolve.

DCKs: ANT-1, DEV-1.

ANT-1 (Antwerp): NGO\_LOC = 1 with NET\_STRAT ≈ 0.66, but ADAPT ≈ 0.33 (low/moderate). The case indicates a synchronization issue: Warme Stad is envisioned as a long term (pre-crisis dialogue, 2018-2019) program whose implementation is mainly concentrated in year 2021-2024, so the second phase might be seen as a pre-approaching stage, rather than a complete adaptation.

DEV-1 ADAPT being relatively high (≈0.66), but the main paths of the second phase (CORP\_LOC or NGO\_LOC\*NET\_STRAT) are not very prominent (CORP\_LOC = 0; NET\_STRAT ≈ 0.33). This indicates adaptation through scaling up and adjusting of a current service (Living Rooms), not aggressive network strategies, measured by NET\_STRAT. In general, adaptation in this case is driven by institutional continuity and gradual adjustment and not by the non-public network configuration emphasized in the model.

## Outcome: INNOV

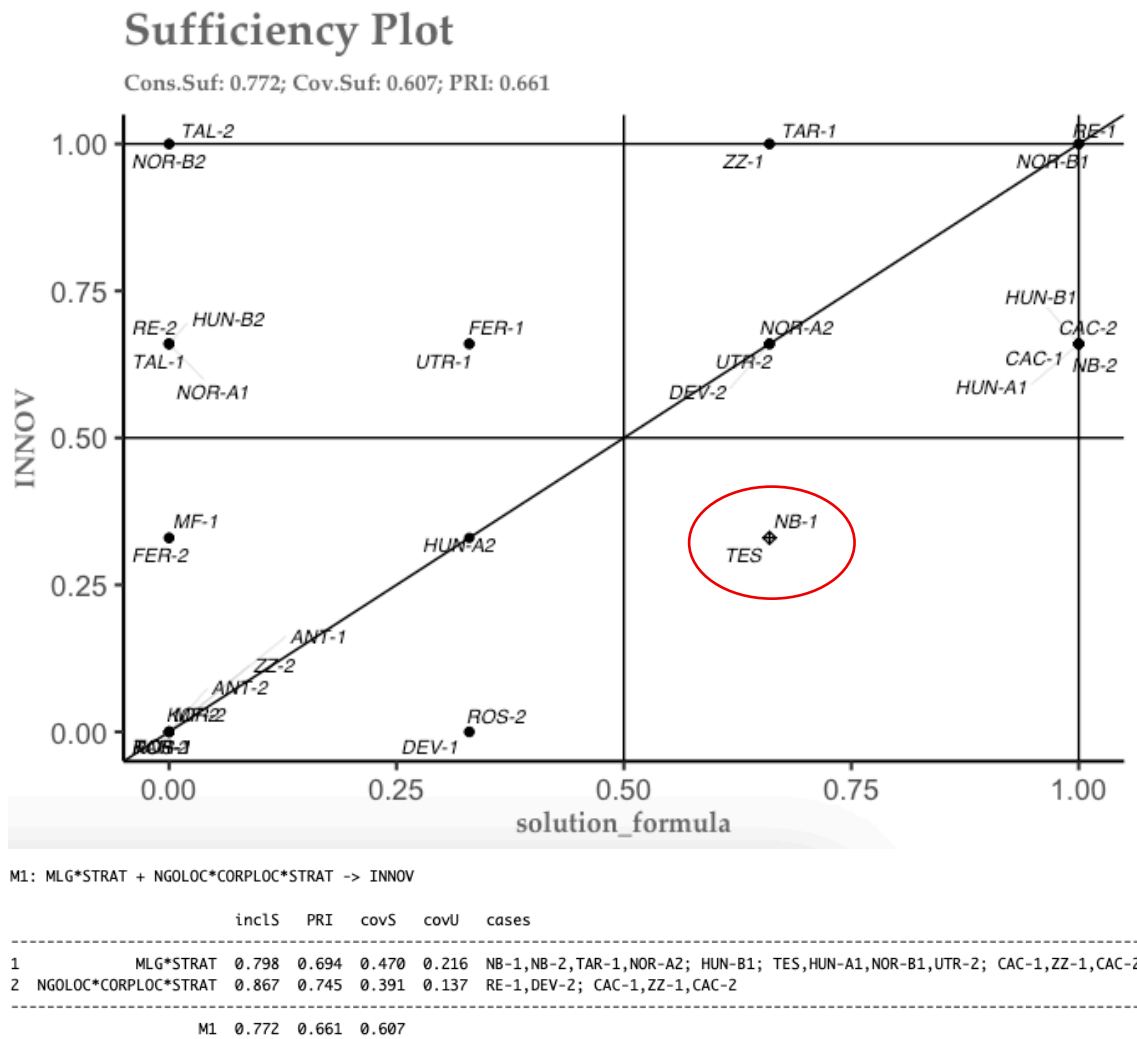
### Phase 1

Necessary condition(s): NET\_STRAT (consistency=0.941).

Configuration	Cases (n)
NONPUB MLG*NET_STRAT	12
NGO_LOC*CORP_LOC*NET_STRAT	5

Key solution paths. Sufficiency analysis identifies 2 configuration(s) in this phase. Solution fit: Consistency = 0.772; PRI = 0.661; Coverage = 0.607.

These results are very interesting because there is a necessary condition. It basically means that whenever the outcome is present, the condition should also be present. In this case, the presence of different types of strategies being a necessary condition for innovation makes sense. The analysis of consistency is fine, but suffers from a relatively low consistency and PRI values, though not entirely problematic. Because STRAT is a necessary condition, it appears in both solution terms.



In the case of INNOV in wave 1, the solutions highlight that innovation is closely linked to connectivity and the recombination of resources through different participation structures. One route is non-public participation at various levels combined with network strategies (NONPUB\_MLG\*NET\_STRAT), illustrated by **RE-1** (NONPUB\_MLG=0.66; NET\_STRAT≈0.81; INNOV\_w1=1.00), consistent with innovation supported by knowledge flows and dissemination channels between different levels. A second pathway is hybrid local coalitions of NGOs and companies operating through network strategies (NGO\_LOCCORP\_LOCNET\_STRAT), illustrated by **CAC-1** (NGO\_LOC=1.00; CORP\_LOC=1.00; NET\_STRAT≈0.77; INNOV\_w1=0.66), indicating that early innovation can emerge when civic and corporate resources are jointly mobilised within collaborative infrastructures.

**Interpretation:** INNOV follows an ‘infrastructure’ logic: NET\_STRAT is almost necessary, so innovation rarely occurs without distributed coordination, platforms and

bricolage. There are two sufficient pathways that specify this: NONPUB\_MLG-NET\_STRAT (non-public multi-level participation plus networks) and NGO\_LOC-CORP\_LOC \* NET\_STRAT (hybrid coalitions between NGOs and businesses using networks). Innovation depends on strategic connectivity that enables experimentation and dissemination.

DCKs: NB-1, TES.

NB-1: STRAT  $\approx$  0.66; MLG = 1.00; NGOLOC  $\approx$  0.33; CORPLOC  $\approx$  0.33; INNOV  $\approx$  0.33 (low/moderate) and TES (TESUSTACY): STRAT  $\approx$  0.66, MLG = 1.00, NGOLOC  $\approx$  0.66, CORPLOC  $\approx$  0.33, INNOV  $\approx$  0.33 (low/moderate). It is a DCK because it satisfies the configuration with NET\_STRAT (the required condition in this model) but does not achieve high INNOV. The cases studied appear to suggest that despite the network strategy, the system has effectively used adequate coordination/multi-level to sustain and adapt service (robustness/adaptation) but has few truly new initiatives (rather extension/replication of current routines), rendering low innovation.

Phase 2

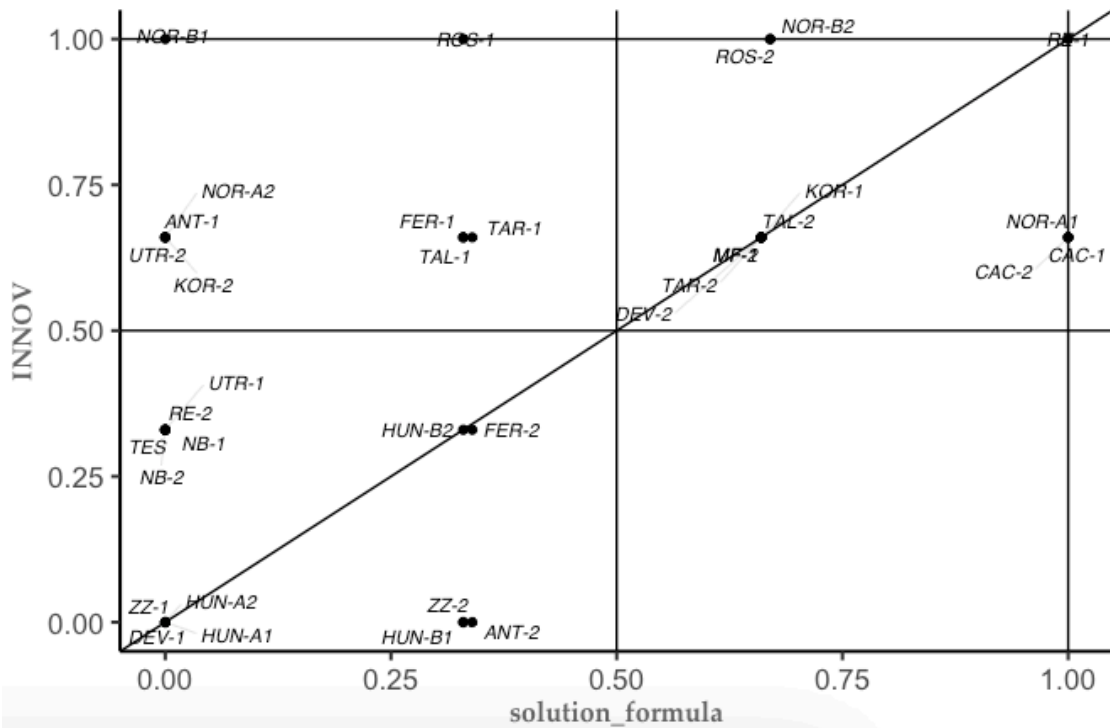
Necessary condition(s): NET\_STRAT (consistency=0.907).

Configuration	Cases (n)
$\sim$ NGO LOC* $\sim$ NONPUB MLG* $\sim$ NET STRAT	7
<b>NGO LOC*CORP LOC*NET STRAT</b>	<b>5</b>

Key solution paths. Sufficiency analysis identifies 2 configuration(s) in this phase. Solution fit: Consistency = 0.835; Coverage = 0.575; PRI = 0.732.

**Sufficiency Plot**

Cons.Suf: 0.835; Cov.Suf: 0.575; PRI: 0.732



M1: ~NGOLOC\*~MLG\*STRAT + NGOLOC\*CORPLOC\*STRAT -> INNOV

	inclS	PRI	covS	covU	cases	
1	~NGOLOC*~MLG*STRAT	0.861	0.762	0.353	0.316	KOR-1,MF-2,TAR-2,TAL-2,NOR-A1,NOR-B2; ROS-2
2	NGOLOC*CORPLOC*STRAT	0.821	0.721	0.259	0.222	DEV-2; MF-1,RE-1,CAC-1,CAC-2
-----						
M1		0.835	0.732	0.575		

In Phase 2, INNOV is explained by two contrasting approaches. First innovation can appear in configurations characterized by low NGO participation, limited multi-level mobilization and weak network strategies (~NGO\_LOC ~NONPUB\_MLG ~NET\_STRAT), as illustrated by **ROS-2** (NGO\_LOC=0.33; NONPUB\_MLG=0.00; NET\_STRAT=0.00; INNOV\_w2=1.00). In effect, this pattern can be interpreted as innovation being driven more by internal redesign of the organisation or services than by broad network collaboration. Second, innovation follows the more expected path of hybrid coalitions between NGOs and corporations operating through network strategies (NGO\_LOCCORP\_LOCNET\_STRAT), illustrated by **RE-1** (NGO\_LOC=1.00; CORP\_LOC=1.00; NET\_STRAT≈0.81; INNOV\_w2=1.00), consistent with the idea that, as partnerships consolidate, it becomes more feasible to invest in truly new initiatives. Taken together, these two solutions suggest that Phase 2 innovation can derive from concentrated agreements between actors/internal capacity or from hybrid coalitions implicit in collaborative structures.

### Interpretation:

In Phase 2, innovation continues to depend on network strategies, but the pathways are more complex. INNOV is strongest when stable coalitions between NGOs and businesses operate through networks, consistent with partnerships that evolve beyond the immediate crisis response. Overall, innovation continues to be linked to sustained collaborative ecosystems.

To sum up, the evidence presented in the QCA results tells a simple story during the pandemic. First, the role of non-public entities is configurational instead of additive and robust governance in crisis situations is not just a function of more actors but of the mix of civic and business players, multi-level involvement and network approaches. In Wave 1, robustness is directly associated with the participation in local civil society and network strategies to allow quick coordination and bricolage and strong network strategies can facilitate robustness, reflecting a compensation logic. Wave 2 is when the role of businesses becomes more visible, while network strategies continue to be found to be a route to robustness. Simultaneously, it is the case that robustness has been linked with hybrid coalitions combining strong local NGOs with multi-level non-public participation.

Second, as moving from robustness into the conclusion of adaptation and innovation, the QCA results indicate an increasing differentiation in the role of non-public actors. However, for ADAPT, Wave 1 provides several pathways. Civic mobilization is capable of generating changes, together with network strategies, which could make up for weaker local mobilization, and business or NGO-led coordination, indicating that adaptation depends on coordination mechanisms.

INNOV seems to be highly dependent on network strategies. Innovation is more likely to emerge if combined with multi-level non-public involvement and/or stable local hybrid

coalitions that integrate civic and corporate resources. Taken together, the evidence signals that non-public actors do not serve as isolated drivers, but rather as parts of hybrid and networked configurations that have varying degrees of performance in different phases and outcomes and depends more heavily on continuity in the level of network infrastructures and resource/knowledge flows across levels.

In summary, the QCA findings suggest that the evidence across the epidemic is as follows: (1) Early phase (wave 1): local NGOs and network-based coordination are the cornerstone of robust crisis governance; (2) Middle phase (wave 2): companies become more significant yet network strategies remain the most cross-cutting driver of robustness; (3) Late phase (remainder): robustness might be more difficult to explain with the same four conditions; stable hybrid coalitions and NGO-led networks are important but they probably would not exist without other factors intervening; and Innovation (INNOV): network strategies (NET\_STRAT) are a near-necessary ingredient, as innovations rarely emerge when there are no collaborative infrastructures.

## 5. Discussion

The fsQCA results support a configurational interpretation concerning the role of non-public actors in strong crisis governance. Instead of seeing a stable net effect by one actor type, the evidence suggests that robustness, adaptation and innovation come together through combinations of non-public entities participation at the local level, companies, multilevel involvement and network strategies. This finding is consistent with research on governance in turbulence and hybrid collaboration.

In the first wave of the covid pandemic, civic mobilization mechanisms and rapid coordination dominate. Local NGOs tend to be a significant pathway for *robustness*, and network strategies (NET\_STRAT). This pattern aligns with a key phase of responding that prioritizes local knowledge, community trust, and improvisation. In the second wave, companies stand out more as contributors to robustness, while network strategies are still cross-cutting. During this stage, robustness is also associated with hybrid coalitions by civic actors and participation at the multi-level, being more well organized and dependent on structures. In the remainder, the lower levels of solution coverage imply the late phase has more heterogeneity. However, when robustness is presented, it is also maintained through hybrid coalitions (NGOs + companies) or via an NGO-led coordination. This implies that the task is not only engaging non-public actors, but in maintaining coordination and legitimacy once the environment is no longer identified as a crisis.

One of the contributions of the study is that the configurational determinants differ according to the outcome. In *adaptation*, the initial waves offer multiple pathways (equifinality) and adaptation occurs through civic mobilization and also through network strategies that replace weaker local mobilization. During the second wave of adaptation, two major paths of adaptation may be distinguished: (i) business participation and (ii) integration in the form of NGOs and network strategies.

*Innovation* seems to be highly connected with network infrastructures. Innovation depends not only on the role of NGOs and firms, but on the presence of a network that share techniques and share solutions. This is why NET\_STRAT becomes a key condition. The innovation is more explicitly dependent on connectivity and the flow of resources and knowledge (often at multiple levels).

DCKs represent situations that have the recipe, and the result is not made. For instance, in Wave 2, significant NET\_STRAT and low ROBUST on the other hand. These narratives indicate that coordination may be occurring but failing through precarious sustainability or institutional fragmentation. Such evidence suggests some omitted conditions. Similarly, high result without high non-public conditions suggests possible underlying mechanisms that remain in focus in the variables, such as effective administrative routines or vertical coordination not modeled by the variables. Altogether, the outlier cases support the idea that the impact of non-public entities is meaningful but context and design dependent.

This study seems to affirm that the role of non-public actors should be perceived as co-production rather than as independent causality in hybrid settings. In terms of methodology, fsQCA provides a way to determine where all combinations are adequate, to investigate asymmetries (when outcomes exist) and how to work with qualitative evidence in deviant cases.

#### *Practical implications.*

The results indicate that strong governance is encouraged when infrastructures for network systems (platforms, distributed coordination, learning mechanisms) are invested in and hybrid coalitions having protections to preserve legitimacy are supported. To foster adaptation and innovation, however, it is not sufficient to mobilize non-public actors: the continued existence of resources, sustainable mechanisms to exchange knowledge and link the levels of government is what is needed. Furthermore, the late phase demands particular tactics to prevent demobilization and to institutionalize learning as normalization can impede coordination and innovation regardless of the persistence of the actors' network.

## **6. Conclusions**

In this article, we explore the relationship of NGO and companies and other forms of non-public participation with effective robust governance in crisis situations, and the results of adaptation and innovation throughout various phases of the pandemic. Taking a wave-based fsQCA approach, the findings show that non-public contribution is configurational and dynamic. There is no single path to go, nor a single actor in control, and so in reality robustness and other outcomes are determined by combinations of actors and strategies: the results are contingent on the trajectory of the crisis.

In Wave 1, there is evidence that robustness tends to be associated with local civil society organizations that could coordinate and recombine resources through network tactics, at large. The significance of business participation is more pronounced in Wave 2, but the network mechanisms continue to serve as a cross-cutting mechanism. The configurational explanation loses its coverage in the rest, suggesting heterogeneity.

This study proves that *adaptation* provides multiple ways of moving and leads to implementation capacity and distributed coordination configurations. For *innovation*, evidence is more challenging, as innovation depends largely on the presence of multi-level participation and hybrid coalitions.

This interpretation is also reinforced by deviant cases (DCKs/DOCKs). The existence of networks or non-public actors does not in itself lead to robustness, adaptation or innovation. Therefore, the implications for public policy are not about adding actors, but about designing and preserving hybrid arrangements with coordination and learning mechanisms that endure changes of phase and normalization.

To sum up, the paper adds to literature regarding stable governance in turbulent times, because of comparative evidence that non-public actors are key players as members of coalitions and networks. It explains why robustness can be achieved through multiple pathways but why adaptation involves tighter linkages and innovation requires sustained network infrastructures.

## References

- Ansell, C., & Torfing, J. (2015). How does collaborative governance scale? *Policy and Politics*, 43(3), 315–329.
- Ansell, C., Sørensen, E., & Torfing, J. (2015). Governing in the Face of Turbulence. In E. Sørensen & J. Torfing (Eds.), *Yearbook of the Centre for Democratic Network Governance* (pp. 13–40). Roskilde University.
- Ansell, C., Sørensen, E., & Torfing, J. (2021). The COVID-19 pandemic as a game changer for public administration and leadership? The need for robust governance responses to turbulent problems. *Public Management Review*, 23(7), 949–960. <https://doi.org/10.1080/14719037.2020.1820272>
- Ansell, C., Sørensen, E., & Torfing, J. (2022). Public administration and politics meet turbulence: The search for robust governance. *Public Administration*, 101(1), 39–55. <https://doi.org/10.1111/padm.12874>
- Ansell, C., Sørensen, E., Torfing, J., & Trondal, J. (2024). *Robust Governance in Turbulent Times*. Cambridge University Press.
- Blamire, J., and Rees, J. (2025) Robust Local Governance Responses in the Context of Turbulence: The Case of Collaborative and Co-Created COVID-19 Pandemic Responses in Two Local Authority Areas in England *Social Policy & Administration* Vol. 59, Issue 2 Pages 350-359
- Boucher, S., Hallin, C. A., Garcia, Leal Garcia D., Paulson, L., & Javakhishvili-Larsen, N. (2023). Key defining concepts: Collective intelligence, democracy and governance. In S. Boucher, C. A. Hallin & L. Paulson (Eds.), *The Routledge Handbook of Collective Intelligence for Democracy and Governance* (pp. 108-141). Routledge.
- Carstensen, Martin B., Sørensen, E. and Torfing, J. (2023) ‘Why we need bricoleurs to foster robust governance solutions in turbulent times’ *Public Administration* Volume 101, Issue 1, pp. 36-52 <https://doi.org/10.1111/padm.12857>

- Carstensen, Martin B., Schmidt, Vivien A (2024) Ideational robustness of economic ideas in action: the case of European Union economic governance through a decade of crisis, *Policy and Society*, Vol 43, Issue 2, Pages 173–188, <https://doi.org/10.1093/polsoc/puae011>
- Farooqi, S., & Knox, S. (2025). Maintaining collective legitimacy during crisis: A case of social enterprise intermediaries in Scotland. *Public Administration*, 1–18.
- Huxham, C. (2003). Theorizing collaboration practice. *Public Management Review*, 5(3), 401–423. <https://doi.org/10.1080/1471903032000146964>
- Klijn, E.-H. (2008). Governance and governance networks in Europe: An assessment of ten years of research on the theme. *Public Management Review*, 10(4), 505–525. <https://doi.org/10.1080/14719030802263954>
- Klijn, E.-H., & Koppenjan, J. (2016). *Governance networks in the public sector*. Routledge. (ISBN 978-1-138-88741-1)
- Knaggård, A., Triantafillou, P. (2024) The ideational robustness of liberal democracy in the wake of the pandemic: comparing the Danish and Swedish cases, *Policy and Society*, Vol 43, Issue 2, Pages 225–239, <https://doi.org/10.1093/polsoc/puae009>
- Knox, S. and Arshed, N. (2024). Street-level discretion, personal motives, and social embeddedness within public service ecosystems. *Public Administration Review*, Volume 84, Issue 5 September/October 2024 Pages 918-931 [doi.org/10.1111/puar.13761](https://doi.org/10.1111/puar.13761)
- Kövér, Á. (2021). Civil society and government in the era of COVID-19: Introduction to the Special Issue. *Nonprofit Policy Forum*, 12(1), 1–24.
- Leite, H., and I. R. Hodgkinson. 2021. “Examining Resilience across a Service Ecosystem under Crisis.” *Public Management Review* 25(4): 690–709 [doi.org/10.1080/14719037.2021.2012375](https://doi.org/10.1080/14719037.2021.2012375)
- Lindsay, C., Pearson, S., Batty, E., Cullen, A. M., & Eadson, W. (2021). Co-production as a route to ‘better’ policy-making in devolved government: reflections from a UK-wide programme. *Policy & Politics*, 49(3), 429–447.
- Mazzucato, M., and Kattel, R. (2020) COVID-19 and public-sector capacity *Oxford Review of Economic Policy*, Volume 36, Issue Supplement 1, 2020, Pages S256–S269, <https://doi.org/10.1093/oxrep/graa031>
- Miacchi, M., Cucciniello, M., Trivellato, B., Cristofoli, D., Turrini, A., Valotti, G. and Nasi, G (2025) How to organize in turbulence: arrangements and pathways for robust governance *Journal of Public Administration Research and Theory*, Volume 35, Issue 2, April 2025, Pages 231–247, <https://doi.org/10.1093/jopart/muae027>
- Nakrošis, V. and Bortkevičiūtė, R. (2022). Resilience building during the management of the COVID-19 crisis in Lithuania: Different logics, mechanisms and results. *Journal of Contingencies and Crisis Management*, 30(3), 231-245.

- Osborne, S. (2006) The new public governance? *Public Management Review*, 8(3), 377–387. <https://doi.org/10.1080/14719030600853022>
- Osborne, S. P., Kinder, T., & Strokosch, K. (2022). Co-producing the co-production of public services: The case of public service ecosystems. *Public Management Review*, 24(9), 1335-1358.
- Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. University of Chicago Press.
- Rendall, J., Curtin, M., Roy, M. J. and Teasdale, S. (2024) ‘Relationships between community-led mutual aid groups and the state during the COVID-19 pandemic: complementary, supplementary, or adversarial?’, *Public Management Review*, 26:2, 313-333, DOI: 10.1080/14719037.2022.2084769
- Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences*, 4(2), 155–169. <https://doi.org/10.1007/BF01405730>
- ROBUST Project. (2025). Deliverable D4, Hybridity in Governance, Democracy and Law; Deliverable D6. Cases of Crisis Governance in ‘Networked Localities; D7, Cross-Cutting Configurational Analysis (<https://robust-crisis-governance.eu/working-papers/>)
- Schneider, C. Q., & Wagemann, C. (2012). *Set-Theoretic Methods for the Social Sciences: A Guide to Qualitative Comparative Analysis*. Cambridge University Press.
- Schneider, C. Q., & Wagemann, C. (2010). Standards of good practice in qualitative comparative analysis (QCA) and fuzzy-sets. *Comparative Sociology*, 9, 397–418.
- Scognamiglio, F., Sancino, A., Caló, F., Jacklin-Jarvis, C., & Rees, J. (2022). The public sector and co-creation in turbulent times: A systematic literature review. *Public Administration*, 101(1), 53–70.
- Sørensen, E. and Torfing, J. (2024) The ideational robustness of bureaucracy *Policy and Society*, 2024, 43(2), 141–158. <https://doi.org/10.1093/polsoc/puae015>
- Torres, L. and Pina, V. (2004) Reshaping public administration: the Spanish experience compared to the UK *Public Administration* 82 (2), 445-464. <https://doi.org/10.1111/j.0033-3298.2004.00402.x>
- Torres, L.; Ripoll, J.; Bachiller P.; Pina, V. (2023) *Sustainability Reporting for Robust Governance and Accountability in Turbulent Times. A Delphi Study on Local-Owned Enterprise Preparers’ View*. The International Institute of Administrative Sciences (IIAS-IISA) Congress Doha, Qatar.
- Torfing, J., Bentzen, T., Caponio, T., Corrado, S., Douglas, S., Nõmmik, S., Randma-Liiv, T., Russo, C., Sørensen, e., and Verhoest, K. (2025). Advancing Robust Governance in Turbulent Times: The Role of Multi-Level Governance. *Public Administration*. <https://doi.org/10.1111/padm.70011>

- Torfinng, J., Ansell, C., & Sørensen, E. (2021). ROBUST Grant Application.
- Torfinng, J., Cristofoli, D., Gloinson, E., & Sørensen, E. (2023). Robust crisis governance in turbulent times – mindset, evidence, strategies. European Commission.
- Torfinng, J., Ansell, C., & Sørensen, E. (2024). Advancing Robust Governance in Turbulent Times: The Role of Multi-Level Governance, Hybridity, and Societal Intelligence. *Public Administration*
- Torfinng, J. et al. (2023). ROBUST Governance Case Report Form. In Integrated Research Protocol for case studies (Appendix 8, Deliverable D6.1). ROBUST Project.
- Welch, E.W, Hinnant, C.C., & Moon, M.J. (2005). Linking citizen satisfaction with e-government and trust in government. *Journal of Public Administration Research and Theory*, 15(3), 371-391. <https://www.jstor.org/stable/3525668>
- Zardo, F., Rössl, L., & Khoury, C. (2023). Adapting to crisis: The governance of public services for migrants and refugees during COVID-19 in four European cities. *Social Sciences*, 12(4), 213.

ANNEX: CASES

Follows the order of the existing dataset

Antwerp	ANT-1
Kortrijk	KOR-1
Antwerp	ANT-2
Kortrijk	KOR-2
TESUSTACY	TES
Northern Bohemia	NB-1
Northern Bohemia	NB-2
Middelfart Municipality	MF-1
Roskilde Municipality	ROS-1
Middelfart Municipality	MF-2
Roskilde Municipality	ROS-2
Tartu	TAR-1
Tallinn	TAL-1
Tartu	TAR-2
Tallinn	TAL-2
Hungarian locality 1: district within a large city	HUN-A1
Hungarian locality 2: large district within a large city	HUN-B1
Hungarian locality 1: district within a large city	HUN-A2
Hungarian locality 2: large district within a large city	HUN-B2
Ferrara	FER-1
Reggio Emilia (Italy)	RE-1
Ferrara	FER-2
Reggio Emilia (Italy)	RE-2
“Big City Youth-Help” and “Big City Youth Forum”	NOR-A1
Small municipality	NOR-B1
“Big City Youth-Help” and “Big City Youth Forum”	NOR-A2
Small municipality	NOR-B2
Cáceres	CAC-1
ZZcity	ZZ-1
Cáceres	CAC-2
ZZcity	ZZ-2
Deventer	DEV-1
Utrecht	UTR-1
Deventer	DEV-2
Utrecht	UTR-2