

## **“Closed by Default”: Authoritarian Data Governance and Civil Society in Singapore**

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Despite growing scholarship recognizing data as a site of contestation, research on authoritarian data governance predominantly focuses on state actors, leaving underexamined how such governance is experienced and contested by civil society. Through a case study of Singapore, this article addresses this gap by examining civil society’s data practices through semistructured interviews with 21 activists, journalists, and academics. It identifies two key contributions. First, this study reveals how authoritarian data governance is experienced as a hierarchical structure: Support for illiberal policies is datafied as technocratic evidence through selective data disclosures, while civil society expertise is marginalized through technical disaffordances and opaque administrative mechanisms. Second, this article finds that civil society’s responses to data control involve not only tactical shifts but also epistemological ones. Facing dilemmas about whether and how to engage with data shaped by technocracy and illiberalism, civil society actors develop alternative data practices that both challenge and co-opt the language of technocracy.

*Keywords: censorship, data, Singapore, repression, civil society, counterdata, civic data, technocracy, authoritarianism*

A growing body of research highlights data’s role in oppression and inequality, highlighting how data have become the site of new forms of contestation and control (D’Ignazio & Klein, 2020). Even as more scholars have begun to examine how nondemocratic regimes manipulate, suppress, or selectively deploy data to maintain power (Carlitz & McLellan, 2021; Hollyer et al., 2015), much of this literature focuses primarily on state actors and their technologies of control. This leaves underanalyzed, but crucial dimensions: how such control is experienced by civil society and how datafication is reshaping knowledge production under authoritarianism. These questions are increasingly pressing, given the broader shift away from overt state violence toward subtler, informational forms of authoritarian practice (Guriev & Treisman, 2019).

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Singapore represents a critical case for understanding the relationship between data and authoritarianism. An archetypal example of authoritarian resilience (the state has been ruled by a dominant single party since independence in 1965), Singapore has pioneered forms of coercion and control emulated by other regimes (Guriev & Treisman, 2023; Ortmann & Thompson, 2014; Teo, 2021). The country's emphasis on technocracy as a source of legitimacy also makes data a key component of authoritarian rule. At the same time, faced with authoritarian constraints on data, Singaporean civil society has responded with its own innovations. This is also an important area of study, with critical data studies highlighting the novel data cultures and epistemologies that stem from such practices (Baack, 2015; Crooks & Currie, 2021).

In examining the relationship between authoritarian data governance and civil society's knowledge production, this article finds that civil society actors must constantly negotiate when and how to engage with data infrastructure shaped by dominant technocratic and illiberal ideologies. While existing literature on repression and dissent documents tactical shifts—how civil society adapts strategies when facing new constraints (Honari, 2018; O'Brien & Deng, 2015)—this article identifies a parallel, but distinct phenomenon: In contesting authoritarian data governance, civil society undergoes epistemological shifts that result in contestations in data that pursue goals that are fundamentally different from that of democratic contexts.

### **Data and Authoritarianism**

This literature review summarizes past research on authoritarianism, highlighting the importance of information control for regime survival. Thereafter, it highlights how such information control intertwines with elite ideologies of technocracy in Singapore's data governance. Here, civil society responses represent a key dimension for understanding the impact of authoritarian data governance.

### ***Information Control in Authoritarian Contexts***

Authoritarian regimes have incentives to manipulate information to maintain stability and legitimacy (Chen & Xu, 2017; Guriev & Treisman, 2019). As Guriev and Treisman (2023) argue, the current dominant model of autocracy is informational in nature, with its defining feature being a focus on information manipulation rather than violent suppression. These authors argue that Singapore is a key example of this new breed of informational autocracy, being an active promoter and inspiration for similar models of covert repression elsewhere. This is what George (2007) describes as "calibrated coercion," or the use of subtle controls to neutralize challengers at minimal cost. In practice, this translates to Singapore's opaque press controls, limits on academic freedom, opaque administrative policies, and laws against "fake news" and foreign interference (George, 2012; George et al., 2022; Lee & Lee, 2019; Teo, 2021).

Roberts (2018) provides a framework for understanding how information control takes shape through both visible (fear-based) and less-visible (frictional and flooding) censorship. While fear-based censorship requires a subject's awareness of repressive intent, imposing frictional costs on accessing information or flooding the information environment with pro-state narratives does not—and is therefore less likely to—provoke backlash. Critically, Yang (2025) argues that an opaque and expansive censorship apparatus that suppresses nonpolitical content normalizes repressive practices through desensitization.

Concerning data, Hollyer et al. (2015) found that public disclosure of credible economic data can facilitate mass protest and collective action for nondemocratic regimes. In authoritarian contexts, open government initiatives are complicated by missing and biased data (Carlitz & McLellan, 2021; O'Connor et al., 2019). Maerz (2016) argues that authoritarian regimes adopt e-government initiatives as exercises in building legitimacy by simulating transparency and participation without meaningful accountability, while Carlitz and McLellan (2021) argue that autocrats employ selective transparency to undermine political opposition. In other words, repressive actors distort rather than fully suppress data.

Censorship is thus not only about missing information but also about how information gaps and distortions reshape understanding and knowledge production; as Carlitz and McLellan (2021) warn, the use of manipulated data risks “parroting the party line in data form” (p. 1). While a growing body of research examines how digital repression takes shape, these analyses typically concentrate on repressive actors or their technologies of control, rather than on how repression shapes knowledge production through public data infrastructure or the subjects of repression themselves.

### ***Technocracy and Authoritarian Legitimacy in Singapore***

Dominant narratives of constant economic progress, meritocracy, and the centrality of market logics are key components of how the ruling class legitimates authoritarian rule in Singapore (Seng et al., 2017; Tan, 2012; Teo, 2013). While variously described by these authors as “neoliberal morality” (Teo, 2013) or an “ideology of pragmatism” (Tan, 2012, p. 68), they indicate a system where the dominant script is one of technocracy and illiberal democracy. Technocratic norms constitute a form of legitimacy independent of popular will and justify curtailing democratic contestation (Bertsou & Caramani, 2020), whereas illiberal democracy is defined by popular participation in democratic processes (like elections) existing without constitutional liberalism, eroding civil liberties, and concentrating power (Zakaria, 1997).

This manifests in data. Stevens (2019) argues that the state’s primary government data portal (data.gov.sg) has a limited and skewed selection of data sets (favoring recent and economic data). Such data reinforce and embed dominant narratives of technocracy, economic growth, and self-policing (by enabling apps that employ citizen surveillance). Technical “disaffordances” and measurement inconsistencies also complicate the use of data for critiquing Singapore’s illiberal capitalist mode of governance. While affordances are properties of an object that allow it to be used as a person intends, disaffordances bar specific forms of action—sometimes without being perceptible (Wittkower, 2016). For instance, Singapore does not have an official poverty line. It also publishes a Gini coefficient (a measure of wealth inequality) that excludes income from assets and much of the noncitizen population, enabling a claim that inequality declined in the past decade (Thum, 2024; Yeoh, 2024). In contrast, a nongovernmental measure used by multinational investment bank UBS found that wealth inequality had increased in Singapore and was among the worst of the countries measured (Jom, 2024; UBS, 2024). Beyond wealth inequality, data are scarce on other contentious issues, such as fatalities among migrant workers (who have fewer labor protections than citizens), LGBTQ+ people, and housing insecurity (Beh, 2019; Migrant Death Map, 2022; Ng, 2019).

Technocratic and illiberal norms also extend to data-driven surveillance and population policies. Teo (2013) argues that economic productivity fuses with moral judgments about which forms of citizenship, family structures, and ways of life are legitimate and deserving of state support—reinforcing exclusionary state intervention and market logic as natural while limiting criticism of state policy. This can be seen in a now-defunct policy to promote sterilization among the undereducated while promoting population growth among university graduates (Chan, 1985; Palen, 1986); a race-based population policy seeking to entrench an ethnic Chinese majority (Frost, 2021); and family policies that naturalize the “traditional family” to the exclusion of divorcee and single-parent families (Teo, 2013).

A notable commonality of these controls is their administrative nature, demonstrating what Rodan and Jayasuriya (2007) argue is the technocratic process by which the state defines participation and politics through administrative means. As Tan (2012) argues, dominant one-party and technocratic rule is the result of continuous ideological work deploying the rhetoric of pragmatism to link Singapore’s success to its ability to attract global capital. Co-optation and repression form only part of the equation, with the state’s approach to governance involving highly public processes of legitimation convincing citizens to consent to restrictions on their own freedoms (Lee & Lee, 2019).

Past critical data studies have highlighted how datafication prioritizes technocratic ways of knowing, while marginalizing experiential, subjective, or qualitative ways of knowing (D’Ignazio & Klein, 2020). However, such research typically situates these developments in the context of corporations and liberal democracies. Singapore highlights the importance of examining such technocracy under authoritarianism as an underlying ideology that both justifies and is embedded within data.

### ***Civil Society and Resistance***

Data studies scholars emphasize that repression cannot be understood without analyzing marginalized groups and their contestations of the dominant script (Costanza-Chock, 2020; D’Ignazio & Klein, 2020). Understanding these groups only in terms of their deficiencies overlooks their role in technological change. Furthermore, their agonistic data practices can create alternative epistemic cultures (with a greater focus on the affective and narrative potentialities of data) and represent a form of democratic agency (Crooks & Currie, 2021; Milan & van der Velden, 2016). Baack (2015) argues that the open data movement conceptualizes new forms of democratic agency when applying open-source culture to the creation and use of data. The sharing of raw data, for instance, allows the public to make their own interpretations, breaking up the interpretive monopoly of governments. As such, examining data settings—the social, political, and technical circumstances shaping data production (Loukissas, 2019)—is key.

Research on repression and dissent also highlights how they are co-constitutive behaviors: Repressive and dissenting actors’ behaviors are shaped by expectations of how the other might act (Ritter & Conrad, 2016). As such, while state behavior is likely to be influential, civil society engages in tactical shifts when meeting new constraints (Honari, 2018; O’Brien & Deng, 2015). Such adaptations and alternative strategies potentially explain both the variance in repression’s effectiveness and its evolution over time, but remain understudied in the literature (Honari, 2018; Stern & Hassid, 2012).

In Singapore, authoritarian control over data has sparked civil society innovation, including—but not limited to—counterdata, which D'Ignazio and Klein (2020) define as data challenging institutional sources and dominant narratives to make visible marginalized experiences. In the face of limited data on the city's precariously employed migrant workers, data activists created the Migrant Death Map to collate the 455 recorded deaths between 2000 and 2022 (Migrant Death Map, 2022). Similar approaches have been used in other issues, with initiatives like an academic-driven homelessness count (Ng, 2019), a participatory study on the minimum income necessary to live in Singapore to measure poverty (Ng et al., 2021), and the creation of queer history repositories to reveal a historically marginalized group (Paramour, n.d.). Such counterdata and other forms of adaptations in civic data remain understudied, despite their potential to explain the shape and effectiveness of authoritarian data governance.

Collectively, these points highlight the importance of examining information control, technocratic governance, and illiberal norms through the lens of civil society. By focusing on the lived experiences of data constraints and resistance, this research contributes to understanding how authoritarianism shapes data production and civil society.

### Methodology

Recognizing the importance of how knowledge is situated in accordance with one's standpoint (Harding, 2004), it is important to acknowledge my positionality as a researcher and journalist active in Singapore's civil society circles. This insider status was one that I leveraged to access difficult-to-reach populations, while keeping in mind the tension between proximity and analytical distance inherent in insider research (Dwyer & Buckle, 2009). This research forms part of my efforts to critically and reflexively examine a phenomenon influencing my community in Singapore.

In this study, I adopted a participatory and qualitative approach to co-creating understanding. This participatory approach allowed for iterative refinement of data collection and analysis as patterns emerged, with participants' insights shaping the research design as the study progressed. Because of the subjectivity of experiences of repression, this is best explored through the constructivist, interpretive, and inductive elements of a qualitative approach (Yilmaz, 2013).

Semistructured interviews were conducted with members of Singapore's civil society (n = 21) from February to May 2022 (see Figure 1). Interviews were conducted virtually, lasting 45 to 90 minutes, with a protocol organized around three themes: (1) how participants find and use data on Singapore, (2) what constraints they perceive in data production, and (3) strategies developed in the face of these constraints. Participants were recruited individually and concurrently through purposive sampling and were deemed eligible if they were involved in publicly available data production concerning Singapore (i.e., data activism, reporting on data, producing academic research). Recruitment sought to ensure representation from those whose work spanned areas including social welfare issues, human rights, LGBTQ+ inequality, racial inequality, wealth inequality, migrant workers, and climate justice.

Activists (n = 7)	Independent activist (n = 3) NGO worker (n = 2) Student organization activist (n = 2)
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Academics (n = 7)	University researcher (n = 4) PhD candidate (n = 2) Think tank researcher (n = 1)
Journalists (n = 7)	Independent journalist (n = 2) Alternative media journalist (n = 2) State-affiliated media journalist (n = 2) Foreign media journalist (n = 1)

**Figure 1. Participant information.**

The analysis followed the constant comparative method derived from grounded theory (Boeije, 2002), proceeding through three iterative stages of comparison. First, each interview was analyzed through open coding to identify substantive themes and patterns within individual accounts. Second, interviews were compared within issue-based groupings (e.g., participants working on welfare data, crime statistics, or archival material) rather than by profession, as preliminary analysis revealed that issue area was more salient than occupation in shaping experiences. Third, a cross-group comparison identified shared phenomena and divergent experiences across issue domains. To ensure validity and reliability, this study aimed for data saturation and focused on generating understanding rather than explanations (Golafshani, 2003). Interviews were conducted until common themes and experiences were identified, and unique experiences were fully understood (Low, 2019). Where relevant, participants were recontacted to discuss emerging themes.

This study does not aim to cover the entirety of Singapore's civil society strategies and perceptions. Instead, it draws qualitative insights from actors within this group to illustrate experiences and responses relating to authoritarian data governance. While inferences on the overall generalizability of the study's findings can be drawn, this study examines the behavior of those more actively and publicly engaged in civil society activity than the average citizen and is not a representative sample.

This study also faces limitations because of the constraints around conducting politically sensitive primary research in a nondemocratic context. Fear and concern over possible reprisals can influence participant recruitment and willingness to share information. Of the 28 potential participants contacted, seven declined to participate. To protect their anonymity, participants were assigned pseudonyms, with some details and quotes redacted when necessary, without altering underlying meaning. However, these constraints also justify this study's research design, as the lack of available secondary data on civil society experiences necessitates primary research to fill this gap.

### **The Shape of Missing Data**

This study finds that civil society experiences authoritarian data governance as a series of dilemmas surrounding whether and how to engage with data infrastructure, shaped by a dominant script of technocracy and illiberalism. Participants described Singapore's data culture as one that is "closed by default," where data sharing is not seen as innately positive. Instead, data sharing is selective and opaque, with attempts at negotiating further access often met with nonresponse or rejection without explanation.

As *P* (university academic) described, “Nearly everyone I’ve spoken to talks about gradually becoming jaded with government data sharing, to the point of learning not to request it.”

At the same time, the government is seen as the central figure in data production—both as a primary source of quantitative, administrative, and archival data concerning Singapore and as the key shaper of data production standards. This section discusses the constraints that emerge from this context.

### ***Technical Disaffordances as Frictional Censorship***

When discussing publicly available government data, participants note that using such data is constrained by technical disaffordances limiting their ability to access, analyze, and use data as part of civil society action. While many government data outputs are available on government data portals, availability is inconsistent and incomplete. Key data—such as archived documents, crime statistics, expenditures by government agencies, and some public housing figures—are frequently presented in nonmachine-readable formats like PDFs and JPEGs and scattered across government websites, hampering both discovery and extraction. Many older files and data sets are inaccessible, creating gaps in longitudinal analysis. These findings extend Roberts’ (2018) censorship framework into the context of data, representing a form of frictional censorship that imposes costs on accessing information without visible suppression.

Other frictions exist, such as inconsistent units of measurement across different data sets measuring the same phenomenon and unexplained time gaps between data sets. For instance, *A* (queer activist) described the inconsistent availability of online archival material through NewspaperSG, the Singapore National Library Board’s newspaper repository, while seeking to compile historical material on Singapore’s LGBT community. No explanation is provided for this inconsistent availability or the occasional need for in-person access. Similarly, *U* (former state-affiliated media journalist) explains, referring to crime data published by the Singapore Police Force:

If you look at crime data, for instance, they have just bucketed all the crimes in one category. They’ve aggregated things. Sometimes the years don’t match, and you can’t do year-on-year comparisons if you wanted to. And they won’t disaggregate the data.

Participants noted inconsistencies in data granularity and disaggregation in government data sets. While some provide extensive detail suggesting little redaction (e.g., vehicle registration data), others crucial for policy analysis (such as crime data or public spending) lack detail or are aggregated in ways that prevent meaningful analysis. Data categories that participants deemed critical to their work (race, migration status, class, education) are routinely excluded, preventing intersectional analysis. In one example, *N* (a foreign media journalist) observed that it was not possible to unpack claims of racial disparities in schooling because of the absence of data on racial representation, despite such claims being commonplace in multicultural Singapore. Such examples highlight the lack of contextual data needed to understand Singapore’s policy issues and inequalities. According to participants, both civil society and government use readily available residence type and income as proxies for class, in contrast to measures like race and parental education.

Government data outputs also rarely provide detailed explanations of the methodology, creating further ambiguity over the validity of their interpretations. These technical barriers extend beyond mere inconvenience to what participants term difficulties in “reading data out of context.” If embedded in a government report, these figures come packaged with a pro-government interpretation and rarely allow alternative or novel conclusions by civil society. This adds nuance to Carlitz and McLellan’s (2021) and Maerz’s (2016) prior arguments about authoritarian e-government and open data. Rather than operating solely through performative features or falsified figures, control also operates at a more infrastructural level through interfaces that do not afford civil society the ability to verify, reuse, or build on government data—allowing little room for new or alternative conclusions.

Some of these data frictions are not uniquely authoritarian, but are exacerbated by a “closed by default” data culture that renders data managers unresponsive to requests for clarification or additional data. This represents a form of normalization of repression distinct from Yang’s (2025). Rather than broad censorship of nonthreatening content desensitizing audiences, the broadness and ambiguity of technical disaffordances normalize a “closed by default” data regime where state authoritarian data control is assumed by users as a bureaucratic and technical default. Furthermore, in contrast to the democratizing impact of open data movements described by Baack (2015), these manifestations of open data create a data setting where the government’s interpretive monopoly is reinforced.

### ***Illiberal Citizenship and Data Representation***

Beyond the availability of government data, disaffordances surrounding the government’s exclusionary data definitions also exist. These findings expand on existing literature on administrative control and public legitimation (George, 2007; Rodan & Jayasuriya, 2007) by showing how they intersect with data production through marginalizing experiential and qualitative knowledge of marginalized groups.

#### *Legibility to the State*

Legibility (or lack thereof) to the state dictates many data definitions. In the absence of an official poverty line, the state often defines low-income status in terms of welfare scheme beneficiaries. Similarly, the definition of a household is intertwined with the provision of family support schemes and subsidies. Participants studying welfare and inequality point out that these state definitions are often functionally replicated by nongovernment actors (such as academics and journalists). When less exclusionary definitions are used, they can attract backlash and criticism for deviating from the prevailing definition.

Participants particularly highlight that government data and reports typically use the “traditional family” as a default unit of analysis, operationalized as a “household” of married heterosexual Singaporean parents and their offspring. Those whose family structures diverge—single parents, divorcees, LGBT people, noncitizen—are often rendered invisible, with much official data not acknowledging their existence. Such a definition is intertwined with government rhetoric about traditional Asian values, which problematizes these groups.

This “traditional family” has impacts beyond data. The definition of a household is used as an eligibility criterion for many social welfare benefits, thereby excluding many single parents and same-sex couples. Participants working with queer communities highlighted how LGBT issues are often viewed through a public health lens, in which LGBT people are understood primarily as gay male populations at greater risk of drug abuse and sexually transmitted infections. Illustrating this, *Q* (PhD candidate) explained how emphasis on traditional families meant he felt pressured to justify work on queerness through homonationalist and pro-family rhetoric:

I linked it to the birth rates in Singapore, and was like, “Oh, actually, queer people might want to have families too and, you know, we cannot. By having only one definition of family, Singapore is kind of being at its own peril, because look at the birth rates dropping.” I feel very ashamed and toxic, writing such stuff in retrospect. (*Q*, PhD candidate)

#### *Exclusion of Noncitizens*

While 40% of Singapore’s population are noncitizens (Department of Statistics, 2025), they are often excluded from government data outputs without explanation. Participants note that noncitizens’ data representation is shaped by state rhetoric, exclusion of noncitizens from political events (e.g., the annual Pink Dot pride event, a law on foreign interference), and opaque immigration policies that afford noncitizens precarious status in Singapore. *G* (a freelance noncitizen journalist) described how immigration documents mandating permission to work as a journalist “dictated my life for two years, I was living in constant fear.” This bureaucratic barrier and uncertainty about whether the state would grant permission made finding permanent paid work difficult, meaning that he had to resort to freelance and informal work opportunities, with less institutional support for projects.

Such experiences are also emblematic of how state policies and rhetoric impact attitudes toward data representation. *T* (PhD candidate) found that noncitizens were uncomfortable with participating in his research on housing in Singapore, even when they qualified as inhabitants of the spaces he is studying. This is often expressed as a belief that lacking citizenship “disqualifies them from participation,” as they “don’t feel they have the right to make certain demands in Singapore.” Similarly, *R* (academic) sometimes felt compelled to exclude noncitizens from their studies on Singapore politics because they expected advocacy based on such research would face greater criticism if the perspectives captured were not wholly Singaporean.

#### *Political Participation*

Dominant narratives around the inappropriateness of contentious politics, the toxicity of the “activist” label, and the importance of the state’s technocratic channels also shape data by narrowing the diversity of data workers. A common theme across participants is that laws regulating speech in Singapore are broadly phrased, allowing the government to exercise significant executive discretion in retaliating against civil society. The most frequently cited examples were Section 298 of the Penal Code (criminalizing wounding religious feelings), the contempt of court law, and the Protection from Online Falsehoods and

Manipulation Act. Most participants saw data highlighting policy failures as among the most likely to draw government backlash (discussed below). However, it is not only laws regulating speech that influence data production; a range of administrative and informal mechanisms also create dynamics of co-optation and repression.

In higher education institutions, a key data source, opaque administrative policies complicate data production. University researcher participants say that opaque hiring and promotion processes mean that many researchers avoid producing critical data work until after they secure tenure. Similarly, student activists report difficulties in securing funding and facilities after producing work perceived to be political and potentially antagonistic toward the government. The state's centrality in data is sometimes further reinforced by funding bodies. *P* shared how grant applications are complicated by the existence of a government data set: funders reject proposals because they would replicate existing government data, even though these data are inaccessible.

A different set of dynamics plays out for civil society organizations. Closed-door consultations—typically listening sessions or roundtables on specific areas of concern like social welfare or the environment—are organized by government agencies, officials, or Members of Parliament. These privilege moderate civil society groups but marginalize other voices. Multiple participants believed their groups were “frozen out” or “left out of the loop” because of their critical stances. While these consultations are seen by participants as nondeliberative (primarily serving the state's claim to popular support for predetermined policies), they represent a crucial avenue of information exchange: government-aligned actors can share future policy directions, while civil society provides qualitative insights from groups they represent. Both are seen as important for a group's credibility—to marshal necessary resources ahead of key policy changes (e.g., engaging immigration lawyers before immigration rules change) or inform constituents that their views were shared with policy makers. Such consultations also have a disciplinary effect. While sharing information gained from such consultations with other groups is a norm, using it to mobilize resistance against the government's planned policy is taboo. *B* (student activist) explained: “As an NGO, you are judged based on your effectiveness in advocating or providing services. And it's really difficult to do that if you're finding out at the same time as everybody else.”

In sum, infrastructural and ideological control over data operates at a more fundamental level than censorship as traditionally understood. Rather than only constraining data representation or categories of information, it also limits the analytical possibilities of data, especially for those not sufficiently deferential to the state (and thus lacking privileged access). While George (2007) conceptualized calibrated coercion as subtle and administratively mediated control, this study highlights how such control intersects with data to represent a new frontier for disciplinary governance, operating through a host of nonstate actors. Rather than simply making certain forms of political participation more costly, my findings indicate that Singapore's data governance creates a hierarchical knowledge structure where state-aligned expertise is generally applicable and socially relevant, setting the terms of engagement, while other expertise is marginalized as niche, biased, and politically motivated.

As past theorists have argued (Seng et al., 2017; Tan, 2012; Teo, 2013), technocratic governance intersects with illiberal conceptions of citizenship and belonging. Concerning data, the result is illiberal citizenship, which is influential in shaping who is counted (represented) and whose knowledge matters.

Noncitizens, nontraditional families, and marginalized groups are rendered invisible by exclusionary data definitions because they contradict the narrative of economic progress and social cohesion underpinning illiberal technocratic rule. Meanwhile, activists and civil society actors are sidelined because their data epistemologies might challenge such narratives. The complex relationship between technocracy and illiberalism merits further study, especially in the context of data.

### ***Understanding Data Gaps as "Success Data" and "Failure Data"***

Uncertainty is a prevalent theme when discussing access and analytical issues. Participants were uncertain whether constraints were intentional or the result of more innocuous issues like poor technical capacity. Amid such uncertainty, "success data" and "failure data" (data showing either the effectiveness or ineffectiveness of governance) emerged as one key framework through which participants identified Singapore's inconsistent data availability as a form of technocratic legitimation. This logic aligns with Stern and Hassid's (2012) work on control parables. To understand the risk of reprisal amid ambiguity, missing data indicate state intolerance toward particular critiques. While some participants preemptively self-censor, the greater challenge stems from the host of nonstate actors also following similar control logics, with whom civil society must contend.

However, uncertainty alone does not explain the rise of this particular framework. Rather, data on Singapore and data about policy are often indistinguishable. Both are closely tied to state legibility and state definitions. As such, widespread availability of data on Singapore would give civil society the means to articulate criticism of state policy. Participants use this logic to explain the contrast between detailed data sets for certain topics (employment growth, vehicle registrations, wet market locations), while data on other policy areas remain difficult to access. For instance, for *K* (data journalist), the lack of detailed crime data made it impossible to assess claims about law enforcement effectiveness, while *H* (independent writer) expressed frustration over how opacity around public spending limited interrogation of Singapore's meritocratic ideals. "Why is public spending on preschool education a fucking state secret, man?" said *H*, noting that as parental investment in children diverges early, the unequal starting points of publicly funded kindergartens and private preschools are politically sensitive.

While "failure data" explains missing data, "success data" explains how participants see the government's selective disclosures of data, particularly in defense of government policy during parliamentary speeches or press conferences. These data points are often released without underlying data or methodology. Illustrative of a common experience across issue areas, *M* (independent journalist) described how a government minister used survey data on public belief in the effectiveness of the death penalty to justify its retention, despite social-scientific evidence to the contrary:

So because they believe it's a deterrent, it will surely deter them. Therefore, it is a deterrent. And I'm like, that's not even how it works. You can't just take a public opinion survey and then say that proves the deterrence effect.

These selective disclosures typically highlight evidence suggesting policy success or quantifiable majoritarian support for a contentious policy. Participants highlighted instances of government officials arguing against safer working conditions for migrant workers, ending criminalization of consensual sex

between men, and ceasing capital punishment. Such disclosures trigger media coverage, academic opinion, and NGO commentary, effectively reframing the debate around these points. While technical disaffordances represent frictional censorship, these data disclosures can be understood as a form of flooding (Roberts, 2018) or using select data outputs to convey pro-government narratives as part of public legitimization efforts.

This illustrates the paradoxical dynamic between technocracy and popular support in legitimizing authoritarian rule in Singapore. Despite elite distrust of public participation, quantified and majoritarian data are selectively mobilized to highlight popular support for illiberal policies as a form of technocratic evidence and democratic legitimacy. Building on past work on authoritarian data, this study finds that these dynamics are mediated by technocratic norms, such as the state's interpretive monopoly, creating the appearance of inclusive governance. While Bickerton and Accetti (2015) have previously argued that technocracy and populism can work in tandem to challenge democracy, my findings illustrate a distinctly data-driven dimension. Rather than democratizing discourse, this invocation of popular will constrains the scope of contestation to narrow and highly visible parameters—triggering a race to find alternative ways to quantify popular support from civil society or contest state-defined parameters.

### **Contesting Authoritarian Data**

Referring to a 2022 government survey seeking public input on LGBTQ+ issues, Q (PhD candidate) summed up a common sentiment among participants: "If we say something, then we play into that game where our voices can be taken and used to legitimate something, but at the same time, if we don't say anything, then we're just going to concede territory." This section discusses how civil society actors resolve dilemmas when engaging with authoritarian data.

### ***Epistemic Positioning and Credibility***

Key dilemmas emerged from civil society's perceived representational role—serving as bridges between marginalized groups and state-aligned actors—in Singapore's information ecosystem. While those who embrace this role describe how they restore missing political and social context that illiberal and technocratic norms exclude, others express concern that doing so undermines their credibility by accepting an epistemic position subordinate to the expertise of state-aligned actors.

Participants consistently described civil society as being pigeonholed into roles focused on qualitative, subjective, and lived experience, particularly of marginalized and excluded groups less legible to the state. This epistemic positioning generates both openings and barriers, as well as underlying tensions over when exploiting such opportunities means becoming co-opted. Some participants, who positioned themselves as experts on marginalized groups and bridges to difficult-to-reach populations (such as LGBT people or migrant workers), say they faced criticism from state-aligned actors that their expertise is poorly suited to macro-level policy. Others shun engagement with government agencies and state-affiliated media or think tanks out of concern that it would undermine their independence and credibility, but express concern over how refusal to engage with the dominant script further consigns their expertise to the margins.

Academic and activist participants frequently cited Singapore's Minimum Income Standard study, first conducted in 2019 (Ng et al., 2021), as an illustrative example of this in practice. The study used a new participatory research design where data subjects had the flexibility to define items they considered necessary for a basic standard of living—in contrast to the state's wealth measures. However, this study provoked criticism from state and state-aligned actors as subjective and flawed because of its collaborative nature with its data subjects. Participants related similar experiences of state or societal criticism toward methods that give data subjects agency or restore missing social context from data.

In activism, the aforementioned closed-door consultations highlight how representational epistemic positioning can create opportunities and limitations. While active resistance and contestation are discouraged, participants described the importance of providing policy makers in these consultations with "stories" and lived experiences from marginalized groups. Such qualitative experience is considered crucial for justifying and explaining a potential policy's value to the public. According to V (university academic), this is because the civil service is "socialized in such a way that they recognize that not having community at the table means you won't be able to move policy in that area."

Academic participants also highlight the uneven power dynamics at play in academic research. The government's selective sharing of administrative or longitudinal data elevates certain academics while excluding others. Such "insiders" can publish research based on such data, often without sharing it, making it difficult for others to interrogate their claims. Such access signals prestige, insider status, and recognition as the designated expert on a particular policy matter. Similarly, participants note that in journalism, newsworthiness is often defined by the state's interest in commentary, especially concerning critical views shared by civil society. Participants working in mainstream state-affiliated media note that critical research from civil society (seen as niche interests) can be difficult to report unless a government agency provides an official response, as that designates an issue as societally relevant.

Amid constraints, participants describe adopting the language of technocracy as a key strategy to articulate "safe" critique. This not only refers to the use of limited official data and sources but also to positioning themselves primarily as students, academics, or experts engaging in nonpartisan discourse—sometimes in ways that risk legitimizing the very technocratic frameworks they seek to contest. For instance, D (university academic) highlighted an instance where civil society experts collaborated to co-sign an open letter challenging a contentious op-ed on racism published by a state-aligned Chinese paper, noting: "You have to match technocracy with mass mobilization, right? But you don't actually need a large number."

That some civil society actors strategically leverage their epistemic position as experts on marginalized experiences, while others co-opt the language of technocracy, illustrates the co-constitutive nature of repression and dissent (Ritter & Conrad, 2016). However, that some understand resistance in terms of its proximity to technocratic practices suggests epistemic shifts that parallel yet differ from those identified by data studies scholars in other settings.

### ***Relational Infrastructure as Resistance***

Other key dilemmas arise from balancing the desire to restore context participants consider missing in government data against the desire to respect the agency and safety of their data subjects. Participants highlighted crowdsourcing and reliance on citizen surveillance as common strategies for highlighting issues with data gaps. Migrant worker safety is a contentious issue in Singapore, but workplace injury data are lacking, hampered by digital divides and language barriers with migrant workers. For *O* (independent activist), sharing crowdsourced images of migrant workers on their social media page was one way to bring the issue back into mainstream discourse amid such constraints.

Crowdsourcing forms part of a broader theme. Participants view a focus on subjectivity, interactivity (creating spaces for discussion), and co-creation as key in data production—both as a response to the scarcity of quantitative data and out of a desire to restore missing context. Two activist participants who run popular social media pages felt the most important aspect of their work is resharing the opinions and grievances of people they see as underrepresented in data and mainstream discourse, such as those experiencing discrimination or disadvantaged by state policies. These participants saw their social media pages as “signal boosters” for those on the margins to share “raw” and “unfiltered” testimony. This was important both for allowing subjects the agency to convey experiences in their own words and for its performative and persuasive value. Similarly, the focus on qualitative experience and emotional impact drove other participants to adopt nontraditional approaches to sharing research and facilitating policy discussions. *F* (environmental activist) described using comics to provide an emotional context to environmental issues previously understood only in quantitative terms, while *A* (independent activist) used interactive storytelling to make LGBTQ+ communities visible in the absence of comprehensive data by weaving together the scattered instances on which available archival material exists. While Crooks and Currie (2021) argue that agonistic data practices are used in democratic contexts to dispute the terms by which majoritarian political agents rationalize policy, my findings indicate a related dynamic occurring in Singapore, where civil society actors use counterdata to contest technocratic and illiberal modes of governance by restoring missing context and agency.

In an authoritarian context, participants see the building of trust and solidarity between themselves and their data subjects as a key form of resistance through networks of distributed expertise. Because of the low-information environment and uncertainty surrounding repression, emotional care and respect for agency are key concerns in rendering marginalized people legible as data subjects. For instance, *F* (an environmental activist) shared oil and gas workers’ discomfort in disclosing their identities and discussing working conditions because of the fear of employer or government reprisals, leading *F*’s organization to rule out a survey with the minority willing to participate. Other participants shared similar experiences balancing protection versus legibility for victim-survivors of sexual crimes, LGBTQ+ people, and people in precarious employment.

Amid safety concerns, participants use social media affordances to harness virality as quantifiable popular support for particular positions. Participants described this as one way to create space for discussions when shut out of state-affiliated media. Journalist participants note that clear numerical indicators of public interest in particular topics allow them to pitch stories that might otherwise be too controversial. Notably, many participants see these methods as part of civil society’s attempts to construct a different conceptualization of quantified legitimacy that is more emotive and distinct from the state’s.

However, the impact of this is disputed among participants. Some, like *E* (state-affiliated media journalist), believe that such virality can potentially reinforce the taboo nature of certain topics as “sensationalist and reductionist.” Conversely, when addressing “slacktivism” concerns, activist and academic participants highlight how, in a low-information authoritarian context, members of the public “liking” is a key signal of dissent. *B* (student activist) explains that regardless of whether an infographic or essay is read in-depth by target audiences, many users like or reshare simply because the main thrust aligns with their beliefs. The interview material indicates that this legitimacy differs from how the state deploys majoritarian legitimacy: those seeking to harness quantification and virality for their grievances do not always articulate a clear stance on state policies. Sometimes, this mode of contestation merely seeks to record grievances in a way that recognizes a subject’s emotional experience and agency.

Maybe this is somebody who went through the conventional in-house complaint system or the justice system to seek something they want. They went through everything, jumped through the hoops, they still cannot find it. So their point is not so much to get the thing anymore, it’s just to just raise awareness about it and to say that I’ve been through this.  
(*O*, independent activist)

These findings advance repression-dissent literature by demonstrating how civil society responses involve not only tactical shifts (as identified by Honari, 2018; O’Brien & Deng, 2015) but also underlying goals and epistemology—both in line with and in contrast to the broader technocratic system. Amid authoritarian constraints, civil society develops data practices and new ways of knowing that privilege lived experience and democratic agency. Restoring agency and emotional context through testimony gathering and signaling dissent online are considered ends in themselves, sometimes more so than direct changes to policy. Crucially, while such practices seek to challenge technocratic objectivity, they also co-opt the language and norms of technocracy. Beyond being tactical adaptations in the face of data access issues, the use of citizen surveillance and quantified legitimacy also represents some of Singapore civil society’s attempts at creating new openings for data production in a technocratic data setting.

### Conclusion

This article illustrates how authoritarianism reshapes what Loukissas (2019) calls the data setting. In Singapore, the nondemocratic state’s centrality to data infrastructure produces local contingencies that shape not only access to data but also what data exist, how they are categorized, and who can interpret them. By using the “traditional family” as the default unit of analysis and excluding noncitizens, such authoritarian data governance renders marginalized groups illegible while reinforcing dominant narratives, foreclosing the possibility for intersectional critique and alternative ways of knowing. This extends past work on authoritarian control over data (Carlitz & McLellan, 2021; Hollyer et al., 2015) by showing that its manifestations go beyond obstruction or manipulation of government figures. Through the underanalyzed lens of civil society agency and behavior, this study reveals that engaging with authoritarian data involves both navigating constraints and constant negotiation with data infrastructure shaped by Singapore’s dominant ideological script: the interplay of technocracy and illiberalism that legitimates authoritarian rule through appeals to elite expertise, economic progress, and majoritarian interests (Rodan & Jayasuriya,

2007; Tan, 2012; Teo, 2013). Civil society actors thus face a persistent dilemma: whether engaging with authoritarian data risks legitimizing the very systems being challenged, and whether refusal to engage preserves credibility or cedes power.

This article advances theories of censorship and authoritarian legitimation by demonstrating how data governance creates a hierarchical knowledge structure. The “closed by default” data sharing described by participants normalizes information scarcity, highlighting a different mechanism through which populations are desensitized to repression beyond the broad nonpolitical censorship conceptualized by Yang (2025). This study extends George’s (2007) concept of calibrated coercion and Roberts’ (2018) censorship framework into the domain of data, showing that information control operates not only through the suppression of information but also through frictions—from technical disaffordances to opaque administrative policies—which have a disciplinary effect on data production. The selective deployment of “success data,” often through the datafication of majoritarian will as technocratic evidence, can also be understood as a form of flooding and selective transparency to simulate accountability. This interplay reveals a distinctly data-driven dimension to the complementary relationship between technocracy and illiberal populism that Bickerton and Accetti (2015) describe and further entrenches the state’s interpretive monopoly. All of this represents a more fundamental form of control than censorship as traditionally understood—operating at an infrastructural and upstream level to shape not only what categories of information are available but also what modes of knowledge production are legitimate or possible.

Finally, this article extends literature on tactical shift in the face of repression (Honari, 2018; O’Brien & Deng, 2015) by identifying a parallel phenomenon of epistemological shift. Facing constraints relating to access, credibility, and hierarchy, civil society develops fundamentally different orientations toward knowledge production itself. Scholars have established that datafication marginalizes ways of knowing that are subjective and qualitative, thus prompting counterdata and new epistemologies challenging unfairness (D’Ignazio & Klein, 2020), dynamics exacerbated under authoritarian data governance. Some civil society actors strategically embrace their epistemic positioning as experts on marginalized experiences, leveraging the credibility that stems from access to populations rendered invisible by authoritarian data governance. Others co-opt the language of technocracy, mobilizing quantified evidence and crowdsourced surveillance to contest state narratives and create alternative epistemologies centered on affect, agency, and co-creation with data subjects. While past scholars have noted the distinct epistemic cultures stemming from democratizing data production (Baack, 2015; Crooks & Currie, 2021), this study finds that such efforts under authoritarianism may serve fundamentally different purposes than in democratic contexts. For Singapore civil society, restoring agency and recording grievances can be valued as ends in themselves, even when the direct influence on policy or epistemic change remains ambiguous.

As informational authoritarianism becomes the dominant model of nondemocratic governance (Guriev & Treisman, 2023), understanding how data infrastructure embeds and reproduces authoritarian logics is an increasingly urgent concern. Future research could examine whether similar dynamics of selective datafication and epistemological shift emerge in similar contexts. Scholars of authoritarianism and critical data studies would also benefit from greater attention to civil society data practices and how they contest and reinforce authoritarian data governance, technocracy, and illiberalism. Far from neutral, data are increasingly the site of contestation over who counts, who gets to count, and who gets to decide.

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