Folk Theorization and the Counterpublic of Data in Hong Kong

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Abstract

While AI algorithms and big data have constituted the latest agenda in urban governance, they can also be a prime source of public contention. However, despite increased attention paid to public participation and its lack in data-driven governance, limited work has examined how public perceptions of social datafication alter and bring about (counter)public engagement, particularly amid changes in state–public relations. In this paper, I analyze how contemporary networked processes of folk theorization have (re)produced a (counter)public of data in Hong Kong across four relevant projects that unfolded under democratic backsliding. Through the analysis, I explicate how ostensibly banal incidents of data-driven urban governance have become a locus of public contention and resulted in various modalities of data disobedience in a low trust society. I further contend that a renewed conception of folk theorization offers significant insights into the emerging yet underexplored disjuncture between digital citizenship and automated state power, alongside its developmental repercussions.

Keywords: folk theory, data-driven governance, public contention, social datafication, urban development.

1. Introduction

Social datafication, whereby social life and action are transformed into quantified data to be used for real-time tracking and predictive analysis (Mayer-Schönberger & Cukier, 2013), constitutes a paradigm shift in urban governance (Barns, 2016). Attributed to "technological solutionism" (Morozov, 2014) that is increasingly employed by government agencies to paint promising scenarios linking technological progress with social and economic development, social datafication from above tends to discipline citizens' mundane activities and bodily movements by forging an array of "data assemblages […] that constitutes and frames the generation, circulation and deployment of data" (Kitchin, 2014, p. 1). Scrutinizing the emergence of asymmetrical knowledge/power relations in data-driven governance (Brunton & Nissenbaum, 2015), critical data scholars have been concerned with the fundamental issues about whether people's voices and interests are marginalized in these processes (Sadowski, 2019). Therefore, while the deployment of algorithms and data technologies has constituted the latest direction in urban governance, it can also be a prime source of public contention (Beraldo & Mila, 2019; Zuboff, 2019).

However, despite increased attention paid to public participation and its lack in data-driven governance, limited work has examined how public perceptions of social datafication alter and bring about (counter)public engagement, particularly amid changes in state–public relations. This paper advances the inquires by analyzing how contemporary networked processes of folk theorization have (re)produced a (counter)public of data in Hong Kong. Adopting an inductive case study approach, analyze how digitally enabled citizens came to curate folk theories across four state-initiated projects of data-driven urban governance that unfolded under democratic backsliding. The two objectives of this research are to 1) investigate the (trans)formation of the folk theories of data-driven governance in a low trust society and 2) illustrate the influence of folk theories on citizen actions towards social datafication led by the local government and its developmental repercussions.

Based on the analysis, this paper contributes to critical data studies and urban development research by explicating how ostensibly banal incidents of data-driven governance may constitute a locus of public contention and result in various modalities of data disobedience, as citizens converged online to articulate interrelated folk theories on the (local) state's initiatives of social datafication, while acting upon them in daily interactions with algorithms and data technologies. I further contend that, as an analytical approach, a renewed conception of folk theorization offers significant insights into the emerging yet underexplored

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disjuncture between digital citizenship and automated state, along its impact on urban governance.

2. Literature review

2.1. Digital citizenship and automated state

Successful implementation of data-driven urban governance depends greatly on public trust in the state (Leung & Lee, 2023). However, the trust of the Hong Kong public in the local government and, by extension, its AI- and data-driven projects fell steeply after the unprecedented 2019-2020 Anti-Extradition Bill Movement (AEBM) and the enactment of the local version of the National Security Law in June 2020. According to a survey by the Hong Kong Public Opinion Research Institute, respondents expressing distrust in the government in January 2021 outnumbered those affirming trust at 50.7% to 28.1% (Lee, 2022).

Situating the analysis in the shifting social-political context of Hong Kong, my case study casts new light on how a distinct type of "contentious politics of data" (Beraldo & Milan, 2019) emerged in a low trust society and the ways in which it (re)produced what I call a (couter)public of data, as to be explained in the next section, in (former) the city of protests. It provides an invaluable research opportunity to examine the (trans)formation of the public contention toward state-led social datafication and its resulting (counter)public engagement with AI and mass data collection in the digital age.

Whereas most research on AI and data activism has focused on campaigns advocating for data justice or resistance to corporate intrusions and monopolies in advanced liberal democracies, this paper instead looks at the bottom-up articulation of anti-data sentiments and practices targeting the automated power of the state under an emergent authoritarian regime. I argue that a shift from the anti-capitalist perspective implicated in the extant literature, which tends to observe an erosion of state sovereignty and functions (Latonero & Kift, 2018; Milan, 2022), to a renewed focus on the emerging disjuncture between digital citizenship and automated state power is essential to understand some of the underexplored processes of public contention over data-driven governance moving beyond AI capitalism and its associated activism. Especially in non-democratic contexts, this is crucial precisely because of the ability and/or potentiality of the state to extend power and control by exploiting and/or co-opting the technological affordances offered by the AI industries and corporate data infrastructure.

2.2. Extending the folk theorization approach

Burgeoning studies have grappled with the ways in which "the multiplicity of bottom-up, transformative initiatives interfering with and/or hijacking dominant, top-down processes of datafication" (Beraldo & Milan, 2019, p. 2). However, much of this strand of research on the contentious politics of data has overlooked how "political arenas are reorganized, and discourse and claims are legitimated" in the first place (Kavada and Poell, 2021, p. 191), instead merely concentrating on citizen activists' ostensibly unambiguous, natural ways of (re)appropriating data practices and infrastructure.

For Tilly and Tarrow (2015), who have made vital contributions to activism and social movement studies, "contentious politics [necessarily] involves interactions in which actors make claims bearing on other actors' interests, leading to coordinated efforts on behalf of shared interests or programs, in which governments are involved as targets, initiators of claims, or third parties" (p. 7). Thus, they consider contentious politics as "a sustained campaign of claim making, using repeated performances that advertise the claim" (p. 11). As a contemporary form of contentious politics, public contention over data-driven governance should also be examined with attention paid to the discursive and communicative processes, whereby citizens deconstruct official or top-down discourses of data assemblages and (re)construct local or subaltern understandings and, in turn, their practices of AI and big data.

In this paper, I argue for the specific need to investigate the processes whereby digitally enabled citizens come to enact new or alternative "amalgams of systems of thought" (Kitchin, 2014, p. 20) that would reconfigure their data practices in both public and private realms. Specifically, I contend that it will be beneficial and more fruitful to invoke a folk theorization perspective to inquire into the discursive and communicative underpinnings of the "modes of thinking, rationalities, and theories" (Siles et al., 2020, p. 1) held by people and of the changes in them in the (trans)formation of (counter)public. Thus far, the folk theorization perspective has been leveraged to study individual users' understanding of algorithms, algorithmic recommendations, and algorithmic changes in digital applications (apps) and social media platforms (Devito et al., 2017; Siles et al., 2020; Ytre-Arne & Moe, 2020). Given their capacities to frame or guide individuals' (re)actions, these folk algorithm theories have been found to be generative of user resistance.

In this paper, rather than merely looking at how lay people make sense of unfolding data regimes as atomized individuals, I extend the folk theorization approach to shed light on the ways in which networked citizens engage and interact with each other in the

"citizen curation" (Pedersen & Burnett, 2018) of folk theories regarding AI algorithms and data technologies that provide multiple malleable ways to explain and act in the increasingly datafied city. As I shall show in my analysis, it is largely through these interactive and networked processes of public sense-giving and sense-making that certain issues of data-driven governance have gained (contentious-)political valence and resulted in a variety of acts of data disobedience, ranging from networked forms of collective action to more individualized action repertoires aand connective forms of resistance vis-à-vis changing political opportunity structures in Hong Kong.

3. Methodology

A case study approach was adopted for this study because it enabled an account of evolving events, a focus on the disobedient sentiments and practices of networked citizens as the units of analysis, and an assessment of difference across various settings (Yin, 2009). The four cases, namely smart lampposts, digital contact tracing, SIM card registration, and e-HKD were selected for several reasons. First, they are key to The Government of Hong Kong Special Administrative Region's (HKSAR) initiatives in automated governance and smart city solutions for addressing emerging urban and future challenges. Second, the four cases illustrate the articulation of networked public discontents and disobedience to state-led social datafication in that they all adopted platforms as major arenas for (inter)action. Third, they belong to a distinctive type of contentious politics of data in that they targeted and challenged the automated power of the state, shifting away from the current focus on AI-capitalism and its associated activism. Lastly, their different timelines and AI and/or data handling policies provide "both a snapshot and long exposure" (Minocher, 2019, p. 627) to examine how the contentious politics of data evolved in the city.

This study drew on digital ethnography and archival research to examine the networked processes of folk theorization revolving around the four projects of state-led social datafication in (post-)movement Hong Kong. Digital ethnography involves unobtrusive, observational analysis of visual, audio, and textual content on digital platforms to understand communications and interactions in online groups and the points of view of their members (Kozinets, 2012; Langer & Beckman, 2005). Following this approach, this study focused on the perceptions and responses, as well as the changes in them over time, of networked citizens to the projects. Drawing on Coleman (2010), it focused on observing their self-constructed culture, discourses, and conventions in the (counter)public communities on and across online platforms. Conducting non-participant online observations on open-access platforms allowed for "uncovering mechanisms and tracing processes" (Small, 2009, p. 22), minimised the (potential) risk and harm to researched subjects as it avoided intruding on privacy or disturbed the natural behaviour on these sites, particularly where a potentially sensitive topic is concerned (Kozinets, 2012; Langer & Beckman, 2005).

This study collected materials on four major online platforms. These included 1) LIHKG, the Reddit-like platform that has been the most prominent forum in Hong Kong, especially since the AEBM (Ting 2020; 2022); the two most popular social media platforms in the city, namely 2) Facebook and 3) Instagram; and 4) Telegram, an encrypted, cloud-based messaging app, which was a popular site during both the AEBM and the data activism in its aftermath (Ting 2025). Collecting materials across platforms allows the study of online behaviours and interactions across a digital media ecology, rather than on a single, specific platform (Feuston et al., 2020). Although collecting threads/posts and replies/comments on these open-access platforms may not include all of the materials available, analysis of the publicly available content posted on the most popular platforms helped achieve "societal significance" (Small, 2009), and offered insights into the articulation of folk theories associated with the experiences of the networked citizens.

To collect the empirical materials, search terms were developed for each case, specifically by observing trending keywords and hashtags, to identify and track threads or posts that involve relevant discussions or calls for action starting from when the state-initiated projects became public. The study traced and took screenshots of all the threads and posts along with their metrics (numbers of likes, shares, and comments) and their engagement data (comments, hashtags, etc). These indicated the popularity of and interactions surrounding a particular thread or post, and the other members' agreement with the shared opinion or claim.

This study also conducted immersive readings of media coverage, documents, and records. It collected and curated an archive of materials. First, press articles and public records were collected from the LexisNexis database using keyword searches. Second, policy documents, announcements and press releases were collected from the government websites and related platforms. This served three purposes. First, it allowed for a "nuanced, context-dependent analysis" (Rubin & Rubin, 2005, p. 242) for appraising "how and why certain issues gain political valence, and what opportunities certain acts of politicisation provide" (Kenworthy, 202, p. 424). Second, it guided the online observations on the platforms as it helped connect them to their antecedents and targets, and it identified the

corresponding institutional forces, events, and actors by noting the key time points when they occurred. Lastly, it supplemented digital ethnography by providing evidence of the acts of networked data disobedience and their ramifications in real-life contexts that were not fully captured by the online observations.

The analysis of the online observations was integrated with information derived from archival research to provide a contextual analysis. It paid particular attention to how disobedient sentiments and action repertoires surrounding the four cases were articulated on the online platforms. While the process of interpretation remained open, it began with a coding process to identify the key themes. To achieve a context-specific account, this study involved an iterative and dialogical process that moves between empirical materials and theorization (Carspecken, 1996; Spiggle, 1994), and gradually refined the themes until sufficient levels of interpretive convergence and theoretical saturation were achieved (Belk et al., 2013).

While I investigate particular folk theories in the Hong Kong cases, my goal is to not to compile a full collection of folk theories in the four cases, but rather to offer a nuanced understanding of the contours and consequences of folk theorization in the (re)production of (counter)public around data-driven urban governance. In presenting research findings, I make reference to evidence and examples that illuminate the broader networked processes of folk theorization at work. To protect privacy and anonymity, people's (user)names are not mentioned and their (profile) pictures are blurred, when presenting the findings.

4. Analysis

4.1. Smart lampposts

The installment of smart lampposts was key to the HKSAR government's smart city initiatives to address emerging urban challenges. As an integral part of the government's Smart City Blueprint, over 400 smart lampposts are to be installed by 2023 to build "a world-famed Smart Hong Kong characterised by a strong economy and high quality of living" (Innovation, Technology and Industry Bureau, 2022). Equipped with sensors and cameras, these smart lampposts are said to harness real-time meteorological, environmental, traffic, and air flow data, and they have the capacity to act as base stations supporting 5G mobile networks.

However, with the surge of street protests during AEBM in the summer of 2019, the implementation of smart lamppost was quickly turned into a locus of technopolitical contention on LIHKG, with a significant increase of threads and comments since June 2019. Among them, the posts that referred the to be a "datafied weapon" of police repression was in threads that discuss the earlier installment of smart lampposts in most of the densely populated areas in the city. In this early stage, posts regarding the smart lampposts were mostly news items shared from both local and international mainstream press media that suspected were or could be used by the police to conduct automated surveillance and mass arrests. Citizens and protestors commented on the threads with or without referring to the details of the news items. These replying posts gradually curated a popular folk theory that establishes a relationship between smart lampposts and police repression:

Your data can be uploaded to a server center (the cloud platform shown in the picture, which can be deployed on either public or private cloud infrastructure), where AI can perform the identification. This approach is not one's speculation; its feasibility has already been validated and documented through practical testing.

As illustrated by the post above, networked citizens discussed and debated about whether the devices that are equipped with sensors and cameras and are compatible with facial-recognition technologies. Under other threads, discussions and debates on how the specific algorithms and data technologies of smart lampposts work also frequently reemerged and constituted a notable feature of the folk theory.

As the smart lampposts were suggested by the folk theory having the capability for facial recognition enabling identification by Hong Kong police, radical or violent protestors self-mobilized to topple down some of the smart lampposts or disable their surveillance capabilities during protest events. Emerged from the online discussions on LIHKG and spread in and across the social media groups of protestors, this resulted in calls for action that mobilized a series of smart mob protests (Ting, 2020), which caused damage to a total of over thirty lampposts at multiple events (Stone, 2022).

In addition to protecting the anonymity of those opposing the government, protestors also attempted trace their "global network of datafied surveillance" in line with the underpinning logic of the folk theory. As shown in Figure 1, after toppling the lampposts, they "anatomized" or "dissected" the lampposts to track down and identify the international suppliers. Based on the information obtained, intense public criticism spread by other citizens on social media, prompting suppliers of the core components of the lampposts to cease supplying and installing the smart devices. For example, Ticktack Technology Limited, which supplied Bluetooth beacons for the smart lampposts, withdrew from the project after being doxed online (Ting, 2025).

Figure 1. Networked protestors dismantling a smart lamppost to track down the IT companies and corporations involved. Source: Chan (2020).

4.2. LeaveHomeSafe

Datafied health surveillance, as afforded by algorithms and the built-in accelerometer technology of smartphones, was widely adopted by governments around the world to monitor individuals' contact history during the COVID-19 pandemic. Especially with the use of apps to record users' contact and travel histories, governments became better able to trace and inform close contacts while offering COVID-19 exposure notifications. In Hong Kong, the launch of the "LeaveHomeSafe" (LHS) app was an attempt to provide the authorities with data about whether a person had been exposed to locations with infected cases to identify and isolate infected individuals. Later, it was expanded to include vaccination records and a code for accessing public locations and to facilitate cross-border travel. An AI algorithm-enhanced auto-leave function was also added to the app to automatically record leaving events detected by the accelerometer. However, amidst intense state–public relations, while LHS may have provided better public health surveillance, another folk theory emerged online, prompting connective acts of data disobedience in the aftermath of AEBM.

A close examination of the top threads on LIHKG and popular posts on social media platforms shows that sociopolitical pressure in Hong Kong complicated the local government's "neoliberal account" (Li, 2021, p. 2) of how using the app can be beneficial. In these threads and posts, people commonly regarded the launch of the app as driven by political motivation, as suspicious citizens believed it to be a similar practice to the "Health Code" apps in mainland China, which were perceived to normalize political repression in the city. Discontent arose on LIHKG and social media platforms over the government's alleged misuse of automated digital surveillance as a way to control citizens and particularly their movements and assemblages in public spaces.

In these processes of (counter)public deliberation and contestation, networked citizens drew on alternative "sociotechnical imaginaries" (Jasanoff & Kim, 2015) to understand the "hidden" political motivation of the local state by projecting its evolution and framed it as an initial instrument for the government to conduct "grid-style social management" in the future. For example, one of the most common alternative sociotechnical imaginaries is about the government's "plan" to attach a tracking device to each citizen with the installment of LHS on the person's smart phone and to report on the person's geoinformation and the like:

Mass surveillance is coming, and soon everyone will be forced to install it. They will know exactly where you are if you turn on Bluetooth, as it will automatically track everyone's movements. Taking things even further, even patriots from abroad will be forced to install it.

After the government's announcement of the use of LHS in November 2020, a boycott campaign was organized via LIHKG and social media platforms. Whereas the government advertised using LHS as a way to protect oneself and others, networked citizens called on the public to instead handwrite their name, phone number, data, and time of entry on a slip of paper instead of using the app promoted by the government, although this was less convenient, especially during rush hours. Figure 2 shows a screenshot of a social media post circulated by networked citizens to mobilize the boycott. The caption "Urgent! Collective boycott is urgently needed. Don't turn Hong Kong into the mode of Xinjiang concentration camp with your own hands!" refers to the "political re-education" camps in Xingjian, suggesting an alleged linkage between digital contact tracing and constant surveillance in mobilizing the public boycott digital contact tracing amidst lockdowns.

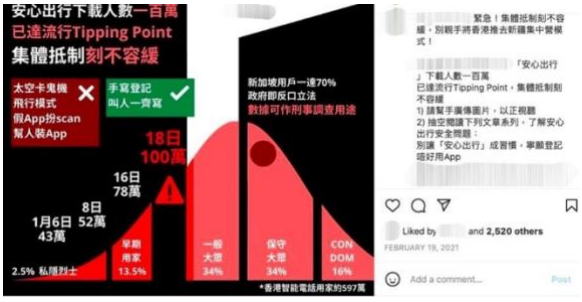

Figure 2. Screenshot of a Facebook post to mobilize a boycott of LHS. Source: Authors.

Meanwhile, countermeasures were constantly solicited on LIHKG to meet the new contact-tracing requirements, especially since April 2021, when dine-in and other services were allowed to resume with groups

of up to four people (later extended to six people) with the use of LHS. Whilst the government ordered the mandatory use of LHS at catering and other businesses, such as bathrooms, bars and pubs, party rooms, and nightclubs, to scan QR codes with the app to track their visits, tech-savvy citizens crowdsourced and assessed a set of "anonymous techniques" (Li, 2021, p. 3), studying LHS's human activity recognition technology and machine learning process identify possible ways to circumvent the automated state. For instances, on the basis of their analysis of the algorithms and AI-technologies, they advised disabling the Bluetooth and other functions of users' smartphones with LHS installed, turning on airplane mode while using the app, and deleting LHS after every use. They also suggested acquiring a second, more affordable, old-model smartphone to run the contact-tracing app to avoid leaking politically sensitive data. These are the thus techniques of "obfuscation" (Brunton & Nissenbaum, 2015) amidst a time of distrust or mistrust that they showcase how ordinary people deploy and "deliberate addition of ambiguous, confusing, or misleading information to interfere with surveillance and data collection" and to camouflage themselves. As the countermeasures were rolled out, other networked citizens subsequently tested and certified these methods in their daily lives during their ordinary travel and activities, and reported their user experiences to LIHKG for the continuous refinement of these countermeasures.

4.3. SIM card registration

SIM card registration was a social datafication project for telecommunication introduced by the HKSAR government that was fully implemented in March 2023 to tackle criminal activities associated with SIM cards, such as telephone scamming, human trafficking, and investment fraud. The success of the project was expected "to facilitate the sustainable and healthy development of Hong Kong's telecommunications services and more effective enforcement against criminal activities associated with SIM cards" (HKSAR Government, 2021). As required by the data collection plan, buyers of prepaid SIM cards must provide their real name and proof of identity to telecommunication companies, with false information punishable by 10 to 14 years in prison. The Regulations of Real-name Registration Programme (the Regulation) also gives law enforcers the authority to demand personal data from the service providers' databases with or without a court warrant. Within the first month that compulsory registration was enforced, 1.4 million Hong Kong SIM cards linked to real names were registered in the electronic registration system (LegCo, 2022).

In the shifting political-cultural context of post-movement Hong Kong, networked citizens doubted whether the introduction of SIM card registration was politically motivated and subsequently articulated a particular folk theory that invalidate the data collection project of the Hong Kong SAR government. The underlying logics of the folk theory is not unlike those about other state-initiated projects of data-driven urban governance. What is distinctive is the reasoning, which not only gives sense to what the project itself does but also what it does or will do in relation to other apparatuses of surveillance. For networked citizens who conceived of SIM card registration in this way, the main purpose of the Regulation is to construct a database for establishing a database for future projects of state control based on the systematic collection of data of cellphone users in Hong Kong.

A common way to folk-theorize the data collection project is to treat it as a part of a larger data assemblage of the local state that allegedly attempts to leverage big data to (further) instill social control in the city. Accordingly, by functioning as a database for the (future) implementation of a "social credit system" that is designed to reward "good" behavior and punish undesirable actions through tracking and evaluating the trustworthiness of individuals, the local state allegedly will expand its network of automated surveillance into Hong Kong's civil society like the following posts:

Judging from their plan, they are fully prepared to turn Hong Kong into Xinjiang in three years. They are using the smart city blueprint to package their citywide surveillance system, combining it with a social credit system to maintain social stability, and then uploading everything onto their newly built cloud to share data exclusively among their own people. Everything has been planned to be completed at the same time, and by then, people will not even be able to leave their homes.

And

We have grounds to believe that, under the guise of "smart cities," the government has been progressively monitoring citizens' lives and every move they make. Hong Kong has entered a state of surveillance equivalent to or aligned with China's social credit system. The government didn't inform or consult with its citizens, depriving them of their right to know.

Interpreted this way, the public consultation of the Regulation met with public contention. Fueled by acute anxiety and anger, an increasing number of threads and replying posts emerged to criticize the project by perceiving it as an attempt to instill fear and thereby

self-surveillance among citizens. A campaign of refusal to register personal data with the program was launched by the networked citizens across LIHKG and social media platforms whilst the proposal was undergoing public consultation between January and February 2021. Figure 3 shows a LIHKG thread linked to a Facebook post titled "One click to object the Real-name Registration Programme," in which a template objection letter was prepared for the campaign. It called on the public to send letters of objection via email to the government's Commerce and Economic Development Bureau, which managed the consultation, and to share the threads and posts about mobilization to other digital platforms so that more people would join the campaign. Other popular threads and posts that were circulated online included lengthy opinion letters, in which the reasons for objection and detailed analysis of the potential risks and ineffectiveness of the program were listed, presenting additional connective efforts of data obedience that facilitated the email-sending campaign.

Figure 3. Screenshot of an LIHKG thread about the email-sending campaign against the Real-Name Registration Programme. Source: Authors.

4.4. e-HKD

The latest social datafication project of e-HKD has been undertaken by the Hong Kong SAR government to support innovation in payment-related digital services and distributed ledger technology, such as blockchain and tokenization. Still at the initial stage of research and experiment, it has been planned and managed by the Hong Kong Monetary Authority (HKMA) which has sought to develop a central bank digital currency (CBDC). However, the e-HKD initiative has periodically provoked intense online discussions that contribute to both the enactment and evolution of folk theories and corresponding individualized responses.

When threads regarding e-HKD emerged on LIHKG in post-movement Hong Kong, they were similar to the previously discussed folk theories that solicited concerns over state control and, this time, its extension into personal spending and money flows. The first few related threads were created after the *Fintech 2025*, *e- HKD: A Technical Perspective*, and *e-HKD: A Policy and Design Perspective* were released by HKMA on 8 June, 2021, 4 October 2021, and 22 April 2022, respectively, to guide policy research and invite comments on initial research. All the original posts of these threads were news articles shared from the webpages of news agencies covering the HKMA's and officials' views on the initiative of CBDC in Hong Kong. They involved intense contentious-political comments as may online discussants used the catchy phrases "The Notorious Three in a Prison-like Hong Kong: LHS, Health Code, e-HKD" to refer to the government's alleged attempt to impose "24/7 monitoring" and establish "absolute control" through the implementation of a CBDC in these threads.

In a popular thread on the commencement of the e-HKD Pilot Programme with 178 replying posts, for instance, online discussants began to construct a general folk theory of "one-click-to-confiscate possessions." In the replying posts, they connected the folk theory to the ongoing issues of the growing trend of emigration in Hong Kong and perceived money outflows in Hong Kong. In particular, they recalled incidents of outbound political dissidents' bank accounts being frozen and proclaimed that "anyone's bank account can be blocked with just one click" once e-HKD is implemented. Others cited the failed attempts of some emigrants to retrieve their Mandatory Provident Fund (MPF) as "evidence" in suggesting that the government could easily restrict some of the personal funds with a CBDC in place, particularly targeting those who seek emigration and/or money transfer overseas.

Following these posts, others said that they were unfamiliar with the initiative of e-HKD and asked about how a CBDC is different from HKD already in use and how it would affect their rights and citizenship as some speculated. More tech-savvy discussants then answered them by analyzing how e-HKD will serve as "surveillance coin" and what it means point by point, inferring tightening social control by the local state:

What's the difference between e-HKD and the current physical HKD? What's the difference between e-RMB and the current RMB? 1) If consumers encounter problems while using electronic currency, they have to handle it themselves. 2) Once people use digital currency, their personal assets, income and expenditure details will be fully exposed to the government. 3) Private property will be completely under the control of the government. For example, fines, levies, forced donations; and bank deposit freezes by the government will become more arbitrary and easier to enforce.

Developing a folk theory of "surveillance coin", other folk theorizers contended that the introduction of e-HKD might not be about blocking someone's bank account once and for all, but rather installation of social control by selectively restricting their personal properties and spending causing great hardship in these people's lives that they won't even be able to secure foods and basic needs. They furthered the folk theory and leaned support to the claim of using e-HKD to punish the disloyal ones by systematically listing how the government could easily and selectively restrict personal spending and money flows with access to personal financial data:

Once all currency is digitized, they can regulate all your behaviors and restrict all your activities with just a press of a button! 1: They can regulate and restrict what you buy. 2: They can require you to spend money on specific dates and in certain ways (think about consumption vouchers), meaning forced consumption and you can't save it up. 3: All your financial transactions will be completely transparent to the government. (For example, whenever and wherever you hire a specific escort, and how much you pay; as long as it's an electronic payment, the government will know.) 4: Right now, credit card transactions are settled through banks, but with e-HKD, the government will have direct control.

Actionable personal responses were constantly discussed in the threads resulting in "data actioning" (Burns & Welker, 2022, p. 5), whereby lay people come to modify their behaviors and decisions to act on data. Given the speculations on state control over personal property and hyperinflation in the close future, investing in decentralized cryptocurrency and exchanging for multiple foreign currency before the launch of e-HKD were frequently suggested and debated online for being the "appropriate" counter-measures among those who see, more or less, some merits in the folk theories. In many replying posts, guidelines for counter-measures of personal spending or bans on money outflows have been crowdsourced in the online forum. For instance, they came up with opening a truth-worthy overseas e-banking account service for daily usage.

5. Discussion and conclusions

Whereas the extant literature has concentrated on analyzing whether individual citizens or groups are excluded and/or their lack of participation in data-driven governance, this paper has set out to examine the citizen curation of folk theories, whereby digitally enabled citizens converge to scrutinize and challenge projects of state-led social datafication, has constituted a vital means through which (counter)public engagement with AI algorithms and data technologies takes place. In essence, approaching public contention through the lens of folk theorization foregrounds the communicative and discursive underpinnings that transformed people's data sentiments and daily practices of data. Particularly in the digital age, this conception offers a nuanced understanding of the networked dynamics of public deliberation and contestation, through which alternative sociotechnical imaginaries are articulated to shape citizen perceptions and actions of data-driven governance in the digital age.

As I have shown in the analysis, due to the citizen curation of folk theories concerned with the alleged automated monitoring and pervasive data collection for police repression during AEBM, the Hong Kong (counter)public has since become critical of state-initiated projects using AI systems and data-intensive technologies. After the first wave of folk theorization regarding smart lampposts, a new wave of folk theories, namely those of digital contact tracing, SIM card registration and e-HKD, often invoked future-oriented characteristics to "explain" and account for the assumedly "hidden" or unknown aspects of the data collection project. Although a few online discussants cautioned to be aware of the potentially unproven aspects of the folk theories, projecting how the local state's initiatives of data-driven will or might work as (parts of) the future projects state control constitutes a major way to neutralize these unproven elements in folk theorization. However, acts of data disobedience based on such "future oriented" folk theories could have an impact on citizens' well-being. For instance, boycotting LHS during the pandemic may endanger the health situations, lives and livelihoods of citizens, who deemed their acts of data disobedience to rationally instrumental if not politically performative.

The Hong Kong cases are also illuminative of the technopolitical consequences of the contemporary networked processes of folk theorization on the city's development and policy implementation. Particularly in today's networked urban environments, citizens are afforded to engage and interact with each other in the

public deliberation and contestation of folk theories. In this process, folk theories tend to evolve from "abstract theories" that "rely on a more general sense that an algorithm is something that will, in turn, cause something to happen" to "operational theories" that exhibit networked citizens' "specific attempts to theorize how an algorithm might actually operate" (Devito et al., 2017, p. 3169). As shown in the analysis, it is largely through this process that general concerns over allegedly expanding state control over freedom of speech, movement, assembly, private property and the flow of funds were consolidated and turned into concert acts of data disobedience that, in turn, target specific technologies or policies of data-driven governance. For instance, in the case of e-HKD, the abstract theory of "one-click-to-confiscate possessions" mutated into the operational theory of "surveillance coin," in which a more sophisticated system of social control based on algorithms and big data was folk theorized to guide people's specific data-related practices in everyday life.

In sum, I have investigated the (trans)formation of folk theories revolving around four projects of data-driven governance that emerged during AEBM and its aftermath to shed light on how the contemporary networked processes of folk theorization have brought about a (counter)public of data. I have appraised how these folk theories were curated and interpreted in relation to other data technologies and larger data assemblages that are (re)politicized in the shifting political-cultural context. I have also considered the ways folk theories of algorithms and big data evolved in the interactive and networked dynamics of mass self-contestation, in which these theories were expanded, advanced and eventually turned into collective or connective acts of data disobedience. I thus conclude that despite divisions of opinion among networked citizens and occasional agonism in their discussions, folk theorization has (re)produced a (counter)public of data in the digital realm and has considerable repercussions for urban development.

As planning institutions are keen to embrace AI systems and data-intensive technologies in urban planning and crisis management, public contention and data disobedience are likely to continue to constitute an important means of (counter)public participation and to become a key arena for state–public interactions and collisions. Future research on data-driven governance and its discontents should pay attention to how the state-initiated projects are experienced and acted upon by digitally enabled citizens by focusing on the (counter-)public perceptions of and responses to them. Future studies could also examine whether such or similar processes of citizen engagement with state-led social datafication constitutes new collectives in the civil society, networked or otherwise, and how public contention over data-driven governance may recalibrate civic-political life, especially in non-Western societies that have been thus far underexamined.

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