

# Culture, Surveillance, and Power

## Understanding Compliance to Digital Pandemic Surveillance in Taiwan

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### Abstract

In both democratic and authoritarian regimes across the world, governments increasingly use digital technologies to monitor and alter the behavior of residents within their borders. While the tools employed are similar across various political systems, the ways in which individuals comply and resist government-sponsored surveillance depend on a myriad of factors. This article examines the ways in which young adults in Taiwan engaged with the widespread use of digital surveillance during the COVID-19 pandemic. How was compliance and resistance toward enhanced government-sponsored digital surveillance mediated between the state and young adults in Taiwan? Taiwan's unique political culture played a key role in ensuring compliance to state monitoring, and this article argues that young adults in Taiwan complied with pandemic surveillance out of the population's reverence for protecting society, peer and familial pressures, and a fear of social stigma cast upon those that carelessly spread the virus. To make this case, the article draws upon more than 50 hours of interviews and focus groups with young adults and state officials from Taiwan. It identifies key causal factors behind one of the world's most successful pandemic responses, which relied heavily upon the wide acceptance of digital pandemic surveillance.

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Political culture plays a significant role in a state's ability to achieve high rates of compliance with digital pandemic surveillance. Individuals maintain agency to either comply or resist state monitoring efforts, and attitudes driving surveillance-compliance decisions are shaped by social norms found within unique political cultures. The surveillance imperative of the COVID-19 pandemic brought comparative cases of culture's impact on compliance into stark relief. Regardless of the political system, individuals exercised their resistance to surveillance measures throughout the pandemic. For instance, in several Western democracies—such as the United States and United Kingdom—state efforts at establishing contact-tracing apps received insufficient uptake from their respec-

tive populations to effectively function and prevent the spread of coronavirus.<sup>1</sup> Under the authoritarian approach in the People's Republic of China (PRC), individuals resisted state surveillance by entering facilities with out-of-date screenshots, effectively deceiving the state about their individual health status.<sup>2</sup> Taiwan's democratic government, in stark contrast, effectively used digital forms of surveillance to control and prevent the local transmission of COVID-19 for a world-leading 253 days. To understand the dynamics behind Taiwan's success in implementing surveillance widely accepted by its population, this article approaches the phenomenon from multiple angles.

It first observes the state's use of digital pandemic surveillance in Taiwan from the onset of the COVID-19 pandemic. A partial state perspective is then constructed through discourse analysis of more than 300 publicly available transcripts and an elite interview with Taiwan's current Digital Minister. Next, it provides explanatory factors from individual young adults; derived from a thematic analysis of interview responses with 18–35-year-olds in Taiwan. The combination of discourse from state and individual perspectives, as well as evidence reported by news media reports, triangulates the mediating factors behind individual compliance. The article's main findings are sourced from in-person and virtual semi-structured interviews with citizens, all of whom experienced the state's use of pandemic technologies inside of Taiwan in 2020–2022. The state's surveillance approach, designed in large part by the Republic of China's (ROC) Digital Minister, was carefully crafted to consider the comfort of and acceptability to the population. Still, this article finds that high compliance with digital surveillance involved more than individual obedience to state authority. Young adults complied with these technologies in large part due to Taiwan's unique political culture, which includes a high value on society, fear of social stigma for breaking rules, and moral arbiters that act in their private capacity to uphold state policies.

### **Taiwan's Pre-pandemic Posture and Surveillance Response**

Taiwan suffered a traumatic experience with SARS in 2003 that drove many changes contributing to its successful posture ahead of the COVID-19 pandemic.<sup>3</sup> During that period nearly 20 years ago, Taiwan's government was unprepared for the rapidly escalating crisis of a respiratory-related pandemic. The central government communicated crisis information differently than the municipal governments. Disjointedness in communication from entrusted authorities led to a traumatic decision to lock down an entire hospital unannounced.<sup>4</sup> In the end, 73 people died in Taiwan from SARS.<sup>5</sup> In the context of today's coronavirus pandemic—with an estimated 1.8 million global deaths—Taiwan's SARS casualties represent a much smaller number. Nevertheless, the SARS experience served as a catalyst for Taiwan's

government to reform regarding health emergencies.<sup>6</sup> In the aftermath of SARS, Taiwan's constitutional court charged the legislature to review the mistakes and establish a new mechanism, the Central Epidemic Control Center (CECC).<sup>7</sup> This 2004 institutional creation was meant to ensure that communication between government ministries and agencies was timely and citizens' input could reach the central government in the next pandemic.<sup>8</sup> Prior to the COVID-19 pandemic, Taiwan essentially established a pandemic emergency plan, streamlined crisis communications and command structures, and practiced it annually. As a result, at the onset of COVID-19, the state implemented a highly successful pandemic response that relied on the use of various digital pandemic technologies.<sup>9</sup> Taiwan's response stood out across the globe for its low individual resistance to digital surveillance measures and its lengthy period without local transmissions.

As a part of Taiwan's pandemic response, the ROC government overtly tracked the location of individuals arriving onto the island by commercial aircraft and ships from abroad. Each individual arrival underwent a mandatory quarantine scheme that involved location surveillance.<sup>10</sup> The state carried out this form of digital pandemic surveillance through tracking individual SIM cards found inside of their mobile phones. Citizens and foreigners alike, arriving in Taiwan from abroad, faced a compulsory quarantine period of 14 days in government-approved, and at times, government-directed accommodations.<sup>11</sup> During the periods where arrivals had an accommodation choice, these lodgings widely varied in quality and comfort from coastal resort hotels to more austere military camps. While in their respective periods of quarantine, individuals were not allowed to leave the confines of their assigned hotel room (i.e., not allowed to physically pass beyond their room's entry door). The state, from the national level down to street-level bureaucrats, used digital technology to ensure that individuals complied with quarantine boundaries. In addition to using individuals to physically monitor hallways and lobby areas, the state also relied on SMS text messaging from locally appointed monitors or quarantine leaders, CCTV cameras, and the location-tracing of cell-phones. Consenting to be tracked by these forms of surveillance was compulsory for every individual entering the island by air or sea.

## Digital Fence Concept Diagram (Taiwan)

### Companies involved (major ones)

== tracking level ==

1. Chunghwa Telecom (telecom): system level
2. Taiwan Mobile (telecom)
3. FETNET (telecom)
4. APNG (telecom)
5. TStar (telecom)

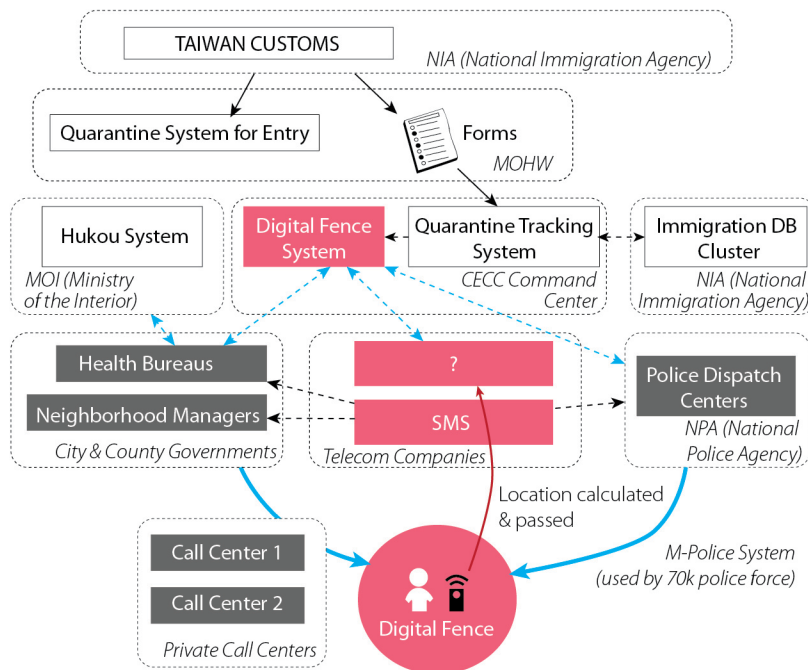
== interaction level ==

5. DeepQ (hTC group)
6. LINE (p2p messenger)
7. Private call centers

### Timeline

- Jan 28: Project kicked off
- Early Feb: Working ver. out
- Feb 14: Customs integration
- Mar 13: CECC Commander brief

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**Figure 1 Digital Fence Concept (Taiwan)**

Figure 1 is a graphical depiction of quarantine surveillance for new international arrivals into Taiwan from abroad. During the pandemic, Taiwan’s government used a form of digital pandemic surveillance commonly referred to as an “electronic fence” or “digital fence,” which essentially geolocated individual cell-phone handsets to enforce quarantines. Using Taiwanese SIM cards—which foreigners and returning citizens were obliged to purchase at the airport upon arrival if they did not already possess—the CECC ensured new arrivals remained in their place of quarantine through location monitoring, texting, and phone calls to

check in and inquire about travelers' symptom status. In addition to CECC monitoring efforts, other local officials (e.g., police, health bureaus, and neighborhood managers) checked in with quarantined travelers on a regular basis. Quarantined travelers who could not be reached in a timely manner received a knock on their door to verify their location. Of the 24 young adults from Taiwan interviewed for this study, 25 percent explicitly mentioned the police physically checking on them personally or on an immediate family member due to an issue with their mobile phone (e.g., dead battery, failed to answer phone call in time).

The CECC accounted for privacy concerns in selecting mobile positioning data as the primary form of quarantine contact tracing method.<sup>12</sup> The state's use of individual mobile phone signals for quarantine tracing first occurred when the *Diamond Princess* cruise ship docked in Keelung, Taiwan, in January 2020 and involved the tracing of 627,386 possible contact-persons.<sup>13</sup> The electronic fence concept used individual mobile signals on the nearest telecom base station to locate the rough position of the mobile devices. Quarantine tracking did not rely on GPS information; rather, it used the less precise base station method of geolocation. Government officials, to avoid privacy concerns, deliberately chose this method over others available that were considered more intrusive to Taiwan's population (e.g., electronic bracelets, IoT devices).

Taiwan's population complied with these forms of surveillance with little resistance, which contributed to the island's remarkably successful pandemic response compared to the rest of the world. Fewer than 1,000 fines were issued, which demonstrated an extremely high rate of compliance for its population size of 23 million. Unlike Singapore and Hong Kong, Taiwan neither threatened prison terms nor revoked permanent-resident status to achieve such high compliance.<sup>14</sup> Still, ROC government officials issued stern warnings about the monetary consequences of breaking these rules. In March 2020, Taipei city mayor Hou Yu-ih stated, "Those who are caught going out to places that have big crowds and are not well ventilated will be sent to centralized epidemic prevention facility and fined Tw\$1 million . . . I will not be soft handed."<sup>15</sup> The fine was doubled for those caught taking public transport. According to interviewees for this study, the potential punishment of high fines was well known.

Nevertheless, Taiwan's news media produced examples of resistance and individuals breaking the geographic confines of state-directed quarantine. The most egregious violators of the digitally imposed quarantine were fined as much as USD 30,000. Evidence of this resistance implies that individuals under these forms of state surveillance did not monolithically comply with state directives; instead, they used their own agency to abide or break the surveillance rules as they

saw fit. The question remained: What attitudes drove the decision to comply or resist with these measures?

In response to Taiwan's pandemic-response success, Digital Minister Tang Feng (aka Audrey Tang) was sought for numerous interviews by foreign governments, think tanks, and news media.<sup>16</sup> Tang is a unique individual to hold the role of Taiwan's first Digital Minister for several reasons—she is relatively young by government official standards and highly experienced in coding and developing software. She is well attuned to digital technology and thoughtful about its interface with Taiwan's population. In 2016, at the age of 35, Tang became the youngest cabinet member in Taiwan's history.<sup>17</sup> Tang's life story is remarkable in itself; that of an individual who was bullied in Taiwan's public schools and then convinced her parents to let her drop out of school at age 14 to self-teach with assistance from the Internet.<sup>18</sup> She was a key decision maker and architect of pandemic surveillance techniques in Taiwan; thus, an evaluation of her dialogue is critical to understand the phenomenon of high compliance.

A discourse analysis of Tang's speeches and an elite interview revealed the minister's perspective on developing and implementing digital pandemic surveillance. The ROC government's "SayIt" website contains more than 1,600 transcripts of the Digital Minister's speeches and meetings since taking office. Of those, this study examined 366 relevant speeches and interviews about the orientation of Taiwan's public toward digital pandemic surveillance. Why, in Minister Tang's view as a state official, was compliance so easily obtained from Taiwan's population?

The first theme that emerged was the government's deliberate use of *nonintrusive design* in the choice of digital pandemic surveilling methods. Minister Tang intentionally incorporated a concept called Calm Technology into the island's digital surveillance approach, which was aimed at choosing technologies most familiar to reduce anxiety in Taiwan's population. For example, quarantine communication between authorities and surveilled individuals relied on the previously existent and widely used method of mobile phone SMS text messages as opposed to mandating a new app download. Other notifications about the quarantine monitoring obligations closely resembled—deliberately and by design—emergency messages for earthquake and flood warnings, to which Taiwan's population is very accustomed. This practice, the minister asserted, made the public much more comfortable and trusting of government surveillance. Rather than introducing a new tracking technology (e.g., a Bluetooth dongle) that might create uneasiness in the surveilled subjects if it malfunctioned, the state designers kept surveillance schemes simple and well-known. Individual interviews with young adults confirmed that this approach contributed to their compliance decisions.

Official decisions about surveillance design also considered the unique political culture of Taiwan, including a desire to avoid invoking memories of past forms of authoritarian governance.<sup>19</sup> Tang admitted to “a debate within the team about whether to make contact-tracing mandatory and we found it would probably backfire because everybody remembered the martial law, and nobody wants to go back.”<sup>20</sup> This comment also revealed that Taiwan’s pre-democratic history of single-party authoritarianism factored into decisions around surveillance. Instead of contributing to the population’s proclivity toward obedience to government authority, the legacy of authoritarianism contributed to the state deliberately designing surveillance with individual privacy at the forefront. This kept the surveilled population assured that the government would not use these forms of surveillance to regress into a less transparent form of democracy. Political freedoms were hard fought and earned in Taiwan, and it was best to avoid raising the specter of backsliding into authoritarianism by mandating digital surveillance in every circumstance.

To allow nondigital tracing options, the concept of *participatory self-surveillance* ensured anonymity in high-risk places where people may not want to share their location with the government (e.g., bars and nightclubs). This handwritten contact tracing option provided a way for patrons to remain electronically anonymous by filling out a paper form that would only be used in the event of a positive case requiring further notification. As a result of having this nondigital option available, Tang suggested that young adults were more willing to provide details. This helped Taiwan fill tracing coverage gaps that could have occurred, especially in crowded places where individuals desired greater privacy.

Another distinct element of Taiwan’s digital pandemic surveillance technologies were measures taken to *increase government transparency*. ROC officials decided not to embed tracking technology within existing social media, payment, or communication apps. This was a key difference from the People’s Republic of China’s (PRC) approach, which used “mini-apps” through the indispensable mobile-app platforms WeChat and Alipay. In contrast, Taiwan relied on the use of simpler forms of SMS messaging for checking in to venues and communicating with quarantining individuals. Tang discussed how Taiwan’s population already trusted their telecom provider would not spy on their messages and to always know their location, so it was more appropriate to leverage this trust than introduce a new app or wearable technology. In contrast to the PRC’s use of existing apps, with its known capacity for backdoor surveillance by the state, Taiwan’s SMS check-ins were reverse auditable. Tang referred to this level of transparency as “making the state more visible to the individual citizen,” as opposed to what she observed in the PRC system of “making the citizen more visible to the state.”<sup>21</sup>

To that end, the minister's team took additional measures to increase accountability of the state, including a concept called "radical transparency." That is, every speech and meeting that Tang holds is transcribed and posted on a state website, and therefore becomes a public record. Tang describes it as serving many purposes beyond clear record keeping. While the minister's words and those of additional attendees are documented, the idea that others are reading your words really drives the content of the meeting—even for lobbyists—toward the common good. As a result, according to Tang, attendees will want to be seen as acting in the public's best interest when future generations look back. Whether it truly affects a lobbyist's agenda, this state-led measure of transparency enhanced trust in the government. In interviewee responses for this study, young adults acknowledged their increased trust in such innovative measures put forth by members of President Tsai Ing-wen's administration.

The digital minister also hit upon a unique aspect of political culture that played a role in high compliance. Tang felt that nongovernmental pressure was a stronger form of power operating on individual attitudes than the fear of legal consequences. In the minister's view, compliance was achieved through peer-based or communal-based forms of power, as opposed to the hierarchical authority structure of the state imposing its policies on society. She relayed that politically speaking, anything top-down is more of a nonstarter for Taiwan's population. Tang's responses touched on how individuals in Taiwan's society also experienced peer and familial pressure in these measures. In practical terms, this nonstate pressure augmented the state's power to formulate and enact policy, which in turn led to attitudes of willingness to follow the government's use of surveillance.

The *fear of shame*, which could occur if one broke the rules and subsequently caused the virus to spread, was a significant consideration for young adults deciding to comply with digital surveillance. In fact, among questioned respondents, this concern to be shamed factored more into compliance decisions than the fear of legal consequences. The potential for social shaming was a powerful deterrent to exercising resistance behavior. Every interviewee spoke about cases of doxing where an individual's digital social life had been significantly impacted. This awareness suggested that young adults primarily wanted to avoid the alienation of friends and family beyond the potential legal consequences, and shame was a major contributing factor to complying with pandemic surveillance.

Along similar lines, the digital minister also weighed in on the power of *social norms* in Taiwan. Tang said, "Yeah, I think because it's a norm-based response where there's this strong social norm to protect oneself and then also protect others around you."<sup>22</sup> Acknowledging the existence of public shaming, Minister Tang also noted that the threat of being singled-out as the breakthrough case was a



factor in compliance. She stated, “there’s a strong kind of community norm around trying not to be the one that’s led to community spread happening.”<sup>23</sup> These references alluded to the doxing and shaming efforts being carried out by a combination of the media and netizens.

In the cyber domain, the term *doxing* is defined as “a form of cyberbullying that uses sensitive or secret information, statements, or records for the harassment, exposure, financial harm, or other exploitation of targeted individuals.”<sup>24</sup> In practical terms, doxing “involves taking specific information about someone and then spreading it around the Internet or via some other means of getting it out to the public.”<sup>25</sup> Doxing is a particularly potent and popular tool because it often uses publicly available information, and therefore—with some exceptions—is not usually an illegal activity.<sup>26</sup> In some cases, people in online forums can pool their talents, knowledge, and resources to crowdsource and collectively dox an individual’s behavior.

*Positive-case doxing* was a societal phenomenon that acted as a form of power against surveillance-resistance behavior in Taiwan’s young adults. When individuals tested positive for coronavirus in Taiwan, a small amount of personal information (e.g., family name, province) was usually released by the state to alert the surrounding population (e.g., city district, village) to the presence of COVID-19. The media would then report these cases and occasionally add details. Concurrently, netizens, seemingly curious or emotional about a COVID-positive individual potentially spreading the virus, would use online forums (e.g., PTT) to iteratively discover and spread additional information about the individual. In some cases, this iterative revealing of identity occurred until the person was fully exposed. Messages were posted about these individuals in online forums, where netizens normally discussed the behavior of positive-case individuals. If it was deemed morally justifiable (i.e., trying to earn an honest living selling goods), some positive-case individuals would be commented on with leniency. If the behavior included deceit or morally questionable behavior (i.e., the pursuit of gambling or sex), the comments would be more malicious—up to and including death threats. The details of these individual cases also mediated the aggressiveness of netizens revealing personal information. In other words, if the behavior was deemed more honest or innocent, netizens would not pursue the doxing as aggressively.

Taiwan’s reverence for “society” is no surprise, and this values orientation added to their willingness to comply with state monitoring. A recent attitudes-focused Pew survey indicated that Taiwan’s public believes society to hold the most meaning in life. Moreover, this is a unique values preference among advanced economies in the world. In a November 2021 Global Attitudes Survey, the Pew Research Center collected views from participants in 17 advanced economies on the

question “What makes life meaningful?” Taiwan was an outlier on this list. Among those surveyed, Taiwan was the sole public to rank “society” as its first choice—over “material well-being,” “family,” “freedom,” and “hobbies”<sup>27</sup> (see fig. 2). This societal values orientation is an important facet of understanding Taiwanese attitudes and behaviors. Young adults who believe society has premier value are more likely to consider the collective benefit to society when developing their individual attitudes and behaviors.

**Table 1. Pew Research Center Spring 2021 Global Attitudes Survey. Q36**

	1st	2nd	3rd	4th	5th
Australia	Family	Occupation	Friends	Material-well-being	Society
New Zealand	Family	Occupation	Friends	Material-well-being	Society
Sweden	Family	Occupation	Friends	Material-well-being/Health	
France	Family	Occupation	Health	Material-well-being	Friends
Greece	Family	Occupation	Health	Friends	Hobbies
Germany	Family	Occupation/Health		Material-well-being/General Positive	
Canada	Family	Occupation	Material-wellbeing	Friends	Society
Singapore	Family	Occupation	Society	Material-well-being	Friends
Italy	Family / Occupation		Material-wellbeing	Health	Friends
Netherlands	Family	Material-wellbeing	Health	Friends	Occupation
Belgium	Family	Material-wellbeing	Occupation	Health	Friends
Japan	Family	Material-wellbeing	Occupation/Health		Hobbies
United Kingdom	Family	Friends	Hobbies	Occupation	Health
United States	Family	Friends	Material-wellbeing	Occupation	Faith
Spain	Health	Material-wellbeing	Occupation	Family	Society
South Korea	Material-wellbeing	Health	Family	General Positive	Society/Freedom
Taiwan	Society	Material-wellbeing	Family	Freedom	Hobbies

Note: Opened question. Rank reflects where the topic fell in a list of 17 sources of mwaning that were coded. See appendix A for more information.

Source: Spring 2021 Global Attitudes Survey. Q36. "What Makes Life Mwaniful, News From 17 Advanced Economics" Pew Research Ceneter. ( Recreated by Air University Press for reader accessibility.

Many young adults in Taiwan also pointed to *social pressure*, particularly from family and friends, as causal reasons behind their compliance with digital pandemic surveillance. When asked why she did not resist the government's use of technology, Lin first acknowledged the huge monetary penalty for violating the boundaries of quarantine confinement. She then quickly added, "And the social pressures . . . everyone will be pissed off at you, and this happens frequently through social media."<sup>28</sup> Another respondent, Zhao Yen, similarly described the social pressure to conform in protecting society. She said, "In Taiwan, the scrutiny of each other, you know, the societal scrutiny is quite high, and you can feel the pressure."<sup>29</sup> Brianna noted how the pressure to comply extends beyond one's family to society. She described her attitude toward this lived experience:

Government is one reason people comply, but the main reason is the public. If you don't scan the QR code and send a message to the government, people will look at you and say, "why didn't you do that?" Then they wouldn't stand with you. If I don't do that then, I feel guilty, I feel like I've upset someone.<sup>30</sup>

Others mentioned instances where they saw individuals ignore the QR-code scan, only to be publicly scolded by bystanders. This pointed to yet another unique aspect of Taiwan's political culture which upheld the compliance behavior of young adults.

Taiwan's value proclivity toward protecting society also includes a recent phenomenon of social justice arbiters known as 正义魔人 (pinyin: zhèng yì mó rén). This term can be translated as a "self-appointed justice arbiter" or "sanctimonious person," but young adult respondents from Taiwan also translated it as a "social justice warrior" or "social justice monster." Others described these private citizens upholding state policy as "having a fascination in social justice." While translations loosely vary, respondents always referred to instances in Taiwan's society where certain individuals (正义魔人) felt it was their duty to uphold rules and norms and confronted rule-violators in a form of on-the-spot public shaming. Interviewees also stated that 正义魔人 reported individuals for pandemic-policy misbehavior (e.g., not wearing a mask) by taking photographs and sending them to local government officials. Instead of going straight to the police, these individuals will take the first stand against behavior that is not aligned with state policy. The existence of these types of individuals, and their willingness to confront rule breakers, was widely known among the young adults interviewed and weighed on their compliance decisions.

## Conclusion

To contain COVID-19, many countries used digital surveillance to monitor the movement, proximity, and health status of individuals. The ROC used digital

pandemic technologies in a novel way, and Taiwan's population complied with these forms of surveillance with little resistance. In addition to deliberate efforts to design surveillance schemes that ensured comfort and minimized state intrusiveness, Taiwan's population experienced a combination of societal pressures that drove higher compliance with digital pandemic surveillance. Beyond the state's legal enforcement power, high compliance with these forms of monitoring technology also owed to the population's reverence for protecting society, familial and peer pressure to comply with the government policy, a fear of being doxed for causing an outbreak, and the unique aspect of 正义魔人. In concert, these factors converged to create Taiwan's unparalleled pandemic response, which included the wide acceptance of government sponsored digital surveillance to combat the global pandemic. Surprisingly, the fear of social stigma was a potent driver on individuals' compliance. Together, these sources of power acted in unison and in turn saved countless lives on the island of Taiwan in a privacy-protecting manner—a response very few other countries in the world experienced. 🌐

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