

# How Taiwan used digital tools to enhance democracy

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by

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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## Taiwan's Digital Democracy

Taiwan in 2014 experienced a fundamental political shift due to the Sunflower student movement which served as a catalyst for a digital democracy. Due to Taiwan's government not acting on behalf of its citizens in a trade agreement with China, Taiwan's citizens used platforms such as Reddit to communicate and organize the movement (Wei-ting, 2009). Due to its success, prominent figures among the tech community such as Audrey Tang, who later became Taiwan's first digital minister, helped develop digital platforms and created organizations to allow its citizens "to engage in rational discussion on national issues" (Kao, 2011), and have "easy access to vital information and power to shape the civil society" (Kao, 2012). These digital platforms include vTaiwan, gov ("gov zero"), I-Voting, and Join to name a few which became successfully integrated with Taiwan's government which helped further extend participation, control the spread of misinformation, and maximize transparency. Those who opposed these tools of democracy included corporations such as Uber and Airbnb to avoid any regulations imposed by the applications.

The importance of these values is prominent in today's digital era due to the spread of misinformation and disinformation on social media platforms by government institutions and individuals. For example, in the US, the spread of false information has led to two-thirds of Americans to have little or no confidence in government institutions (Rainie, 2019). This decline in trust is mainly due to the creation and spread of made-up news to manipulate the public's opinion that is currently harming today's society (Dimock, 2019). With the use of social media platforms such as Facebook and Twitter, which have been major contributors to the rise of misinformation and increase in political polarization, Americans continue to become more fragmented on societal issues undermining people's trust in institutions. As of 2019, at least 70

countries have had disinformation campaigns led by either government institutions or individuals through social media manipulation (Alba, 2019).

To prevent the public from losing confidence in the government, how did Taiwan use digital technology to improve and strengthen its democracy? To address the problem of political division, societal issues, transparency, public participation, and control the spread of misinformation with the goal of improving democracy is to create a platform that allows users to voice their opinions directly to government institutions and are presented with unbiased and verified information from credible sources. To solve these issues Taiwan used digital platforms to bring “hacker” tools into government institutions to increase public participation in democracy and help the government’s response in addressing disinformation (Nabben, 2020). “In these times of dark uses of technology and disillusionment with technology, Taiwan is a good objective reminder that these tools can be put to service for humanity and government.” (Leonard, 2020)

## **Review of Research**

In today’s digital era where technology has allowed communication to thrive and information easily accessible, some governments have begun to adopt digital platforms into its systems to increase transparency between its citizens and expand participation into policymaking decisions. One such country that was able to successfully incorporate these digital tools towards improving democracy is Taiwan. Hierlemann (2020) contends that Taiwan succeeded by recognizing that the internet is a vital tool towards advancing democracy which in 2017 the government declared internet access as a basic human right which has effectively given internet access to all. As a result, this has allowed digital platforms such as vTaiwan, Join, and Pol.is to

work properly by giving all of Taiwan's population access to these platforms. Another factor that has contributed to Taiwan's success, according to Hierlemann, is digital education. In 2017, "media literacy", later modified to "media competence", included journalistic techniques such as factchecking and taught how students can become an active and responsible member of society using digital platforms. Fernández-Ulloa (2013) also contends to this idea as students are prepared for a new citizenship in digital society. By performing these actions, it has prepared and incorporated everyone into the process to help build a strong cooperation between civil society and government using digital platforms as a medium. Anastasiadou (2021) contends that the use of digital platforms for democratic governance with artificial intelligence, if used in a transparent and accountable way, can play a role in capacitating the delivery of better public services, contribute to encouraging citizen trust and political participation, and help in the development of public policies. Taiwan's use of Pol.is, an open-source machine learning application, demonstrates this as its artificial intelligence is used in digital platforms such as vTaiwan and have shown its effective in improving democracy as the number of societal issues solved by the government with the assistance of the public increased using these platforms by at least 80%. (Tyson, 2020) With more people aware of government policies and budget allocations, and allowed access to government data, promotes democracy as citizen's trust in government improves for its increased transparency and accountability according to Longo (2011). This is demonstrated in Taiwan's digital platform known as g0v which gives citizens access to public data giving them the "power to shape the civil society". (Kao, 2012) To make this information easily understandable and accessible to the public, g0v has created multiple user-friendly applications that include government budget visualization, Labor Standards Law Calculator, and Legislator Voting Guide to name a few. As an example, the Legislator Voting Guide platform

provides records of the current legislators' attendance, inquiries, proposals, and organizes election information for all candidates to help citizens "make clear judgments hoping to promote the civic quality and rational thinking in Taiwanese society." (Tang, 2015)

The use of digital platforms has also been considered in urban planning as governments and urban planners struggle to find meaningful ways to involve the public in the process with current methods. Brabham (2009) contends that with the use of the web to reach a larger audience with the appropriate infrastructure serves as one of the best ways to increase citizen participation. Similarly, Wilson and Tewdwr-Jones (2020) who have studied JigsAudio, an open-source digital platform that allows people to express themselves creatively through drawing and talking, contend that the use of such technologies can reduce barriers to participation whilst encouraging creativity and expression. Furthermore, Liu (2021) contends that by crowdsourcing using digital platforms, governments can efficiently solve issues much quicker with public input and transform citizens into coproducers of public services.

Despite the benefits of using digital tools to enhance democracy some scholars argue it may instead harm democracy. Yamamoto and Kushin (2014) contend that the use of digital platforms such as social media foster social fragmentation as users are presented with biased and disinformation. To combat these issues, the digital platform must not have a profit motive, limit user input, and use a machine learning algorithm to effectively aggregate data to foster consensus as seen in Taiwan's platforms. Although these uncertainties may take a while to change towards acceptance, countries such as Taiwan showcase how its digital innovations strengthen its democracy and help manage the Covid-19 crisis due to its increase use of digital platforms for communication with the public.

## **Digital platforms increase government transparency and enhance civil society**

After the Sunflower movement, the Taiwanese government began to increase its transparency with the public using digital platforms such as social media and government sponsored platforms, accepting the complications of restructuring its infrastructure to accommodate these platforms. This development has allowed the government to improve its response time in addressing societal issues as citizens were provided with the necessary information to better understand public policy. If government institutions effectively use digital platforms such as social media to solicit and analyze public comments, then the government will have a better understanding and control of the situation at hand. For example, politician Alexandria Ocasio Cortez often uses YouTube, Twitch, Facebook, Twitter, or Instagram to hold live information sessions. Similarly, Dr. Anthony Fauci has successfully demonstrated it is possible to inform millions of viewers through YouTube by holding Q&A sessions about the pandemic (Rainie, 2019). If government administrations can conduct informative live sessions to receive input on social matters and regulations, then public participation can help regulators address the issue of slow responses. Due to the US government's ineffective planning during the coronavirus outbreak and not understanding the severity of the issue, several communities were harmed due to the lack of transparency by the government (Lipton, 2020). If this information about the virus was released to the public early on through at least one of the platforms, then damages could have been avoided. On the other hand, Taiwan was able to handle the coronavirus outbreak effectively due to the government's regular communication with the public through social media such as Facebook and sponsoring software applications such as a mask finding app to avoid panic among the public due to mask shortages (Sheu, 2020). Other platforms include g0v, vTaiwan, and Join which allow citizens to supervise and discuss government policies.

Audrey Tang has called this approach to open government as “radically trusting citizens” which has paid off with nearly half of Taiwan’s population participating in public policy decisions. (Roch, 2020) By having “citizens set the agenda through initiatives like citizens assemblies, sortition, sandbox applications, Presidential Hackathons, and E-petitions, the government can serve them as a platform for the stakeholders to meet, to find common values out of different positions and deliver innovations” (Allen, 2020). Through radical transparency, according to Tang, “we create a space where civil servants can be seen”. (Zisengwe, 2019) With the introduction of platforms that promote radical transparency through online services such as vTaiwan and the introduction of free software databases such as g0v has offered “Taiwanese people a new way of thinking. It also allows opposite sides to ask each other about their common goals and values leading people to find common solutions.” (Zisengwe, 2019) Although social media tends to divide people, this same technology “can also be designed in a way that allows people to converge and form a polity” according to Tang. (Miller, 2019b)

### **Digital platforms improve government’s responsiveness through open communication**

Ever since the day of the Sunflower movement in 2014, where protestors demanded for the trading agreement between Taiwan and China to be scrapped, the Taiwanese government has increased its involvement with communities and cooperativeness with the public to better communicate with its citizens using digital platforms. For example, to recover the lost of trust from its citizens where 76 percent of the nation was dissatisfied with the Kuomintang government, the administration reached out to g0v (“gov-zero”) in 2014, a decentralized civic tech community, to use its open-source tools to improve government transparency. In the same year, Jaclyn Tsai, a government minister focused on digital technology, attended a g0v-

sponsored hackathon where she proposed the idea of establishing an online platform where various communities could exchange policy ideas (Tang, 2019). This partnership between g0v and the government led to the creation of the vTaiwan (“virtual Taiwan”) platform in 2015 which brought together government ministries, elected representatives, scholars, experts, business leaders, civil society organizations and citizens to discuss national issues (Kao, 2011). This cooperation between these various sectors was acknowledged by the President of Taiwan Tsai Ing-wen stating it is essential for the continuous progress of civil society. (Ing-wen, 2020) President Tsai Ing-wen in the 2020 Presidential Hackathon award ceremony openly supported and advocated the usage of digital platforms to help the government, private sector, and public work together to solve national issues. During the event, she stated “This active participation in public affairs inspires discussion and spurs enthusiasm for change, which are essential to continuous progress in civil society and the nation. Through the spirit of public-private cooperation, combining the wisdom and power of everyone involved, we can use digital technology to apply government data in a meaningful way, and bring innovation and vitality to overall government policy implementation. I also believe that deep and diverse public participation is indispensable to optimizing government performance.” (Ing-wen, 2020)

Another platform that implements the concept of “open government” is I-Voting, an online voting platform launched in 2016 by the Taipei city government. Like vTaiwan, I-Voting allows citizens to participate in municipal discussions by proposing and voting on municipal policy decisions. Although vTaiwan has almost always exclusively helped develop policies pertaining to the digital economy, I-voting differs in that its policies range from budget proposals from different districts to more local issues such as increasing zoo’s open hours. By informing the government about issues concerning the public through proposals and the government



expanding citizen participation through voting, helps create a mutual relationship where both sides work towards improving city life. (Taipei-city, 2016)

Another platform that has helped increase transparency and expand participation is Join, a platform for hosting and debating online petitions which uses the same machine learning system, Pol.is, as vTaiwan and is overseen by Audrey Tang. Although like vTaiwan in many aspects, Join was created directly by the government's National Development Council whereas vTaiwan was a collaborative effort between the government and civil society. Some of the features the platform includes are discussing existing policies, obtaining information on government policies, proposing new policies through petitions that are discussed by the government if 5000 or more people support the cause, and the ability to give feedback directly to heads of government agencies. (Roch, 2020) Despite the success of vTaiwan, most of its accomplishments have been related to digital-economy issues such as regulating Uber and online alcohol sales. To overcome vTaiwan's shortcomings, Join tackles a wide variety of issues "like whether we should build a hospital in the southmost part of Taiwan, in Hengchun, or whether the first publicly open marine national park should ban fishing." (Horton, 2018) Since anyone on the platform can create a petition and its cases extend beyond the digital economy, nearly five million of the country's 23 million inhabitants use Join whereas 200,000 people have participated in vTaiwan discussions. (Horton, 2018) Although there is concern among the public that these digital platforms may instead weaken democracy such as Gina Neff, a sociologist, who commented "There is simply no reason to believe that technology can strengthen democracy." or Sam Adams, a senior research scientist in artificial intelligence, stating, "The problem with everyone having a megaphone is that we get drowned in more noise than useful information.", Taiwan's digital innovations prove otherwise. (Anderson, 2020) According to Tang, platforms

such as Join and vTaiwan has made information gathering concerning societal issues easier for bureaucrats and politicians as these platforms helped politicians prioritize and see what the public demands. (Roch, 2020)

### **Digital platforms assist government in solving complex societal issues**

With the assistance of various digital platforms that solicit input from the public and private sectors, the Taiwanese government saw an increase in productivity and efficiency as the number of cases concerning complex issues were solved since 2014. When the vTaiwan platform launched in 2015, its first major case was to regulate Uber which had arrived 2 years earlier abusing its platform since it was registered as a technology company and not as a transport service which allowed it to bypass taxi laws. When Uber arrived in 2013, its service presented several challenges in ensuring fair competition with other taxi services with Uber refusing regulation (Tang, 2015). To handle this issue, an online meeting hosted by vTaiwan took place between 1875 online participants, the Association of Taxi drivers in Taipei, Taiwan Taxi, Uber Inc., and the Ministries of Transport, Economic Affairs and Finance. As a result of the discussions between the various stakeholder groups, the recommendations that have emerged from the process were ratified by the administration on the 23 of May 2016 successfully regulating Uber's service and improving the taxi industry (Centre for Public Impact, 2019). vTaiwan "gave participants the agenda-setting power not just to determine the answer, but also define the question. And it did not aim to find a majority of one side over another but achieve consensus across them. As divisions were turned into consensuses, the government could act." (Miller, 2019a) vTaiwan has also helped the government break a six-year policy deadlock on online alcohol sales in only a couple of months. (Apolitical, 2017) Ministers were unable to

progress on regulating online liquor sales since all had constituents “who were yelling at each other across the divide, much like the United States government is basically completely deadlocked on a small number of issues that follow the same kind of profile.” (Megill, 2016) By holding online deliberations using vTaiwan’s platform involving alcohol merchants, e-commerce platforms, social groups, and Taiwan’s finance ministry, they were able to reach a consensus and formulate a set of regulations. Colin Megill, the CEO and cofounder of Pol.is, a machine learning platform used by vTaiwan to analyze data, stated that the deadlock “resolved itself almost immediately.” (Horton, 2018) Due to its success in solving national issues, regional governments and other Asian countries have started to consider adopting similar systems. (Apolitical, 2017) As of February 2018, 26 pieces of legislation relating to the digital economy have been crafted collaboratively between the government and the public. (Kao, 2011) On July 2019, vTaiwan had a discussion concerning electric vehicle regulation where an attendee described the discussion as “citizens gathered around tables together with officials from the Ministry of Transport...but there wasn’t any shouting. Everyone – government, riders, e-vehicle sellers, pedestrians – had come to talk about what they had in common with each other.” (Miller, 2019b)

## **Conclusion**

Taiwan’s approach of integrating digital tools with its government using platforms such as vTaiwan, Join, I-voting, and Pol.is, demonstrate how, if used effectively, can enhance democracy by expanding participation, maximizing government transparency, and making public data easily accessible. Often these digital platforms are grouped together with social media and are assumed to cause havoc like social platforms by giving everyone a voice, but this is not

entirely correct. Although the similarities between these platforms and social media function almost entirely the same, they differ in profit motives, design choices, and machine learning algorithms. Social media platforms are designed to present users with information that reinforces current ideologies containing no limitations to user input to prevent trolling or disinformation with a monetization motive. On the other hand, platforms such as vTaiwan and Join were specifically designed to foster consensus with no profit motive. The machine learning algorithm behind these systems, Pol.is, collects user input to create a map where there is divide and consensus, and eliminates this gap by people drafting comments to win both sides. With Pol.is supporting these platforms that restrict user input to only providing proposals and voting on proposed ideas with no reply feature, helps create an effective digital tool to improve democracy. Thus, digital platforms such as those seen in Taiwan should be considered as a viable solution and serve as a model towards enhancing democracy.

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