



# Technology in contemporary global protest movements

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## Background

The last decade has witnessed an increasing number of protests around the world. These protests have a lot of resemblance among them, especially the fact of masses of people coming to the streets. Yet these protests are diverse in nature, which define their unique characteristic. The increasing frequency of global protest has become a major trend in international politics. Though these protests have had different breaking points and varying catalysts leading the protests to survive for a longer period of time than expected, the impact of each remains indispensable.

The present time that we live in is called the “information age” and the 21<sup>st</sup> century is often referred to as the “age of information technologies “. The developments over the years have changed the kind of activism in a more innovative and creative way than we used to see otherwise. We do not see a complete shift in activism to nonviolent action but we have definitely moved away from the usual means and methods used in the protests. Activists continue to respond, opposing the repressive regimes in unconventional ways. They are using social media sites and other technology benefits to drive the current surge in global dissent. It has been noted that there have been more than 300 methods of nonviolent resistance, constituting plenty of innovation, specifically on the tech and digital front. At the core of these rising numbers is the increased accessibility and advancement of specific technologies — namely, ones that help activists use mass communication tools more easily and cheaply. In a way, we have seeded the growth of electronic protest and there is a need to deal with another aspect of today’s activism, which is virtual activism and the kind of impact it is going to bear on us.

Arab Spring, during 2010-2015 was a time of great mobilization in half a dozen countries by citizens attempting to bring down authoritative rulers and uphold civil society. Since then there has been a rise in the tide of citizen protests elsewhere in the world. Just in 2015, significant protests erupted or continued in Armenia, Azerbaijan, Bosnia, Brazil, Burundi, the Democratic Republic of the Congo, Guatemala, Iraq, Japan, Lebanon, Macedonia, Malaysia, Moldova, and Venezuela. Many of these protests have been profoundly important events in the countries where they have taken place. They are often large-scale gatherings of citizens who are determined to challenge fundamental policies or structures of power and improve the economic status of the people. The agenda of these protests vary from fighting against the autocratic and oppressive regimes to raising

voices in view of increasing environmental, climate and humanitarian crises to gender equality. Harsh and violent retaliation by the state, security forces, and other pro-government elements tried to control these protests and were successful to some extent. But over a period of time, protestors have learned to evade these tactics of state and become more aware. From the vantage point of both sides, the use of technology has benefited them to withhold their stand. Technology is a double edge sword here!

### **Causes, Concerns and Fallouts**

From the recent protest movements across the globe, we can identify a few common characteristics and trends that can be helpful to trace the path from their origin to their ongoing activities to the end of the protests that could result in changes or repercussions, if any.

The nature and the type of protests have evolved and are different from the traditional model of protest movements. There is a departure from the traditional way of carrying out the protests. The print media (newspapers, newsmagazines) and broadcast news (radio and television) used to be the only and major sources of information. Through these channels, a larger audience was reached and the information was spread and broadcasted. Otherwise, locally a large number of banners, posters, and pamphlets were used that helped to keep the spirit of the social movement alive. Word-of-mouth communication was also very prominent. Active leadership was the crux of these movements. People relied on a leader capable enough to deal with the state machinery to take the cause of the protests forward. It also helped in sustaining the goal and objective of the protest movements throughout. The states, on the other hand, used force to shut down the protests. These days the protest movement enabled with technology has different angles to its cause due to ease of access and transmission of information. There are lessons learnt and mistakes avoided every time a new protest emerges in a part of the country. Mostly leaderless, unstructured and organised on social media, these demonstrations have multiplied internationally. Cheap, readily available, easily identifiable and above all representing an obligation imposed by the state, like yellow vests have started to become the symbol of these movements helping in the movement's rapid spread.

The most ubiquitous thing that sets these uprisings apart from pro-democracy movements in the past is that millions of citizens are armed with a stockpile of tech resources. Encrypted messaging apps to Social Media Platforms have facilitated smooth information sharing. Some demonstrators feel these apps have fuelled this new kind of leaderless protest. An underlying assumption is that social media is making it more difficult to sustain an authoritarian regime. The current wave of protests is a testimony on how social networks have made regime change easier to organize and execute. They

have become mere tools allowing protest groups to lower the costs of participation, organization, recruitment, and training. Some of the widely used apps are Whatsapp, Telegram, HKmap.live and social media platform sites like Facebook, Twitter, Youtube. The videos and images that are captured using these apps can be shared online in realtime and get traction on the international platform. Most importantly, live streaming via social media has exposed the authorities accountable for unnecessary use of force or violence caught on camera and it helps document the events. As authorities have witnessed social media providing a platform to protesters, the former is increasingly deploying tactics against these sites to suppress dissent.

The core of these protest movements is young people, many of them university or secondary school students. In general, youth have been impressive catalysts to bring changes given their spirit, focus, and savvy. They have maintained a clear message, mobilized a nation, and rallied support from various sectors and age groups. Youth participation is instrumental as they have been at the forefront demanding outright for democratic reforms and economic liberalization in the face of cronyism and economic decline. Hundreds of thousands of activists, many of them students, took to the streets with banners, speeches, and songs. Frustrated by police corruption, economic woes, human rights violations, and oppressive regimes, a wave of pro-democracy protests are started by the youth across the globe. Some analysts believe that “protests could not have occurred without the ideological and numerical push of a huge mass of angry youth.” With technology on their side, youth have been able to exploit and exercise freedom of speech more often and freely. The majority of the support garnered in the protest movements comes from the online communities and groups.

### **Major Trends**

Earlier the movements that actually yielded any kind of change or that were more sustained, they had a proper organizing structure with a leader and different committees sharing responsibilities. The recent protest movements have no central leadership and they are known for being leaderless, whose organisations and proceedings are not set out within a room for party meetings; instead, they emerge on social media. A different kind of leadership is emerging similar to a networked technology that supports peer-to-peer network weaving instead of a top-down hierarchy. The whole network of people is heading the movement and these are the uprisings that are coordinated by smartphone and inspired by hashtags, rather than guided by any leader and his rhetoric. The leaderless nature of these protests acts as a shield making it harder for the authoritarian governments to quash, but at the same time, it may also make the movements more difficult to sustain.

The democracy movement finds strength in numbers but weakness in names. The fear of identification of the individuals taking part in the protests has made anonymity very crucial. Authorities of the state have found a way to combat the protestors by penalising and punishing them. It's impossible to arrest the entire crowd, but if one gets identified on the surveillance systems, it is easier for authorities to single out for punishment. The most common tools used to hide their identities by protestors include the use of masks, balaclavas, and protective headgear. The frontline protestors have concealed themselves behind cameras or by using umbrellas. The same fear of identification extends to the digital space. Protesters have adopted pseudonyms instead of their real names, locked their online accounts. They have been vigilant to erase their digital footprint in every possible way. If there are no precautions undertaken to hide identity, the risks faced can range from personal to family safety to job insecurity. Even if protestors escape arrest or punishment in the present, the chances of future unknown retaliation for participating in the movement, supporting it online, or refusing to condemn remains a possibility.

All of these protest movements and gatherings have been taking place at public spaces and sometimes in the vicinity of the government structures. Public squares have been considered as places of encounter and exchange since the time of the Greek Agora and the Roman Forum. They are not just places for people to gather and interact but also to demonstrate reflecting the idea of people's power and their solidarity. We can notice some striking similarities in terms of scale and settings compared to earlier protest movements. Protestors have usually gathered at places that have some kind of historical, political and economic significance. Human chains around such places are a new addition to these gatherings. Though these represent acts of protest transforming the public spaces, it has often led to the rerouting of the traffic, blocking of highways, bridges or tunnels, and chaos at airports. Basically, delaying and disrupting the functioning of the government structures and also people's lives. Nevertheless, from the protestor's point of view, it's one of the ways to grab the attention of people who might be unaware of the cause or are choosing to ignore it and bring authorities on their toes pushing them to act fast and address the issue.

Technology supports protest movements. This is as true as the fact that people have also used technology-social media platforms to spread a lot of fake news, biased news reporting, twisted facts, and misguided information. Fake news, which is intentionally and verifiably false is designed to manipulate people's perceptions of reality and to influence their decision making. But it has also become a method to stir up and intensify social conflict. These facts mislead people allowing mistrust to grow among people so that unity is broken. In some cases, this mistrust results in incivility, protest over imaginary events, or violence. People with malicious intent can use fake news to make conflicts more intense. Social media has long been a battleground for government propaganda efforts. There are instances when states have tried to influence the

Presidential election of a country. In another case where a government sends fake news to its own citizens, the effort is to stifle conflict rather than arouse it. Governments have even employed people to spread propaganda on social media and governmental websites.

We can see there is a rise in the biometric databases and Surveillance Systems used by the states and state-controlled organisations. In the absence of any clear law or rules and regulations that can define the limit of use of such systems either by the state or any other organisation have made the technology roll out in a “chaotic” fashion. The use of facial recognition technology, surveillance cameras, drones, overhead airplanes to monitor the target (people/groups) has increased and the debate has intensified over the threat it could pose to personal privacy. Cameras and checkpoints have been rolled out intensively. Facial recognition has been used as a crime-fighting tool for a very long time now, but it has been upgraded to the highest capacity and its effectiveness has increased manifold. This has helped the government to cross-reference with photos on ID cards to track and control the movement of citizens and their access to phone and bank services. States have credited the use of such technology to a drop-in crime rate as low as 40 percent. States have also expanded their biometric databases recording every aspect of citizens by entering into covert contracts with Tech giants. Personal, financial, health, social, and other data is being collected by entities ranging from social media giants and apps to websites and retailers—anyone and everyone. These biometric systems are developed to control access to places, products, and services. Once the biometric data is captured, it frequently flows between governmental and private sector users. This has raised concerns about privacy risks. The privacy issue is central to biometrics and analysts believe deploying biometrics poses a considerable level of risk to human rights

There are reports that suggest that there is a consecutive decline in web freedom across the globe and two-thirds of the world's internet users live under regimes of government censorship. The luxury of instant access to information via the web or internet has been crucial for activism. This makes it a significant threat to authoritarian governments, leading many countries to strictly censor websites, content, and communication. There are different ways employed to censor the data. One can entirely block access to websites that regulators don't approve of and remove any information on specific topics, respectively. Sites and content can be restricted either manually or automatically with algorithms that detect and stop access to controversial material. They can also be blocked and filtered on either a permanent or a dynamic basis. These techniques are going to suppress the criticism of the regime, block resistance movements, ban ideas and content that are deemed inappropriate by the state. Some governments may choose to block certain content during elections, political scandals, or other events when they perceive that the regime could be harmed.

These are all some of the common trends with respect to the global protest movements with respect to the use of technology both by the protestors and also the state. The recent developments over the last decade seem to have taken lessons from every other protest in the world and also have learnt new ways of dealing with their authoritative regimes.

The Hong Kong protests that started as a march against the proposed extradition law is one of the largest democracy fights against the Chinese regime. Both the protestors and the state used resources on their ends to safeguard their interests. There were smart lampposts equipped with sensors, cameras, and internet connections installed in the HongKong city. When these lampposts were installed, the protestors were determined to take them down. The government had said the smart lampposts would be used only for benign purposes and as part of smart-city initiatives. —that they would take air quality measurements and assist with traffic control, and would not collect facial or other personal data. But actually, this kind of surveillance infrastructure existed to monitor the protest movements and identify the people taking part in it, target those individuals and their families and impose harsh punishment. governments and corporations will certainly be tempted to run with it. Chinese platforms such as WeChat and Weibo apparently censored content related to the protests. Phones constantly pinged nearby cell phone towers, revealing locations of the movement of the human chain or the protestors.

The protestors made heavy use of two software tools: LIHKG (Li-dan), a Reddit-like message board, and the messaging app Telegram. These apps assisted different groups on these social media platforms to collaborate, to work together, to make it easier for them to communicate and consolidate and do their call to actions. Telegram includes a feature that allows one to see if a contact is a member of a group. Hkmap.live is a real-time, volunteer-run live map of protests that would help one by showing the markers for police presence, elite police units, tear gas, demonstrations, and warnings about police in public transit. Information on the map is crowdsourced through Telegram. To cut down online trolling, there were few measures taken by the protestors. They categorized users based on whether they have joined the site before or after a cutoff date at the start of the protests and only people with Hong Kong ISP email were allowed to join the groups or be part of the protest movement. Online discussion in Cantonese which is mostly not understood by Mandarin speakers, is also used as a defense against online trolling. Such steps have blocked China from taking otherwise steps of mobilizing a pro-mainland Cantonese-speaking community to influence or derail discussions on this public forum. Protestors carried umbrellas, to block the view of CCTV cameras or the helicopters that flew overhead and yet they made it look like to avoid the scorching heat of the sun. They also made use of the laser pointers to confuse the police, and also to block mass surveillance systems, particularly the facial recognition systems. With all such bold steps, the protestors came up with an idea of forming a human chain on the 30th anniversary

of the Baltic way of protest in the former Soviet Union. A human chain was formed around the MTR subway. This large action, an impressive event, was organized in just four days by volunteers who were all strangers to one another.

The Arab Spring that swept through the Middle East and North African countries, though similar, was different in every country. The revolutions in Egypt and Tunisia were non-violent. However, when the revolution spread to Libya and Syria, it became violent and Dictator Muammar Gaddafi was only defeated after the intervention of the US. Similarly, protests became violent in Syria where the revolution is still occurring. The growth of access and use of ICT in the Middle East and North Africa provided resources for protesters and governments to influence political and social events. Both the activists and the authoritarian governments had very little knowledge about social media and it was almost at the same time they were exposed to these things. Activists were able to organize and mobilize in 2011 partly using social media networks such as Facebook, Twitter, and Youtube. They were used extensively to communicate messages amongst local participants as well as stimulate an international response. Most of the countrymen recognised the fact that the most accessible and popular state TV, was biased and the content was covered and controlled by the state military Therefore low-cost video cameras and projector were used to train community members throughout the nation to document military abuses and project these videos on walls within their own communities, in a project called Askar Kazeboon (also known as ‘The Military Are Liars’)Egypt’s anti-military campaigns.

One of the most popular uprisings was the “April 6 Youth Movement”. It was a Facebook campaign that generated tens of thousands of positive responses to the call to rally against government policies. The display of a forest of arms holding up cell phones during the demonstration recorded the police atrocities and posted on Youtube within a matter of hours. The use of font also played a great role in influencing people. In 2009 the introduction of Facebook in Arabic attracted more users than when the site was in English. There are instances when the state (like in the case of Tunisia and Egypt) cut access to mobile services and the Internet, but in turn, it encouraged people to leave home and seek information and join protests.

The state and the military in MENA (the Middle East and North Africa) have used similar channels to spread misinformation and get the situation under control. Sites like Twitter, Facebook, Whatsapp and SMS services were blocked. In Egypt, nearly all the routes and networks were taken down at the same time. DNS and ISPs (internet service providers) were also shut down. The essential information that traveled across the country as well as in and out of the country was controlled. The Syrian government labelled as “tech-savvy foe,” used to closely monitor the online dissidents. There was a suspicion that the telecommunications ministry was tapping into Facebook activity – passwords and

private information remained stolen and read. A pro-government group and self-proclaimed "Syria Electronic Army", was accused of using the Internet to attack its opposition. It once hacked into the Harvard University website and replaced the home page with a picture of President Bashar Al-Assad along with a message accusing the United States of supporting the Syrian rebels. The group even offered some online instructions on how to use Denial of Service (DoS) software to attack anti-government websites. Internet freedom was a major concern and the primary cause of the Tunisian Revolution. Tunisia had one of the most developed Internet systems for the lowest cost in all of North Africa, its government executed a malicious piece of code that would record passwords on websites such as Facebook.

The 2019-20 Catalanian protest was started in Spain when the supreme court in Madrid sentenced nine pro-independence Catalan politicians to long prison terms for their roles in the Catalan referendum on independence in 2017. What at first, began as peaceful mass demonstrations later turned into violence. A secretive Catalan protest group, basically an online activist group, calling itself Tsunami Democratic, had drawn thousands of followers and had directed its members to protest sites. This group has come up with a new app for coordinating protest activity in the region. Tsunami Democratic is using this app as an organising tool that helps in coordinating actions and evading police detection. This app is not available through Android's Play Store or on Apple's App Store. Instead, one has to download an APK file (an Android Package file used to distribute applications on Google's Android operating system) from the website, and manually install it on their phone. This type of installation process avoids the big tech firms removing it from app stores following pressure from the government. It also allowed whoever developed the app to keep their identity more private than if they had published their creation through an official app store. The protest group seems to have learnt from the Hong Kong protest when one of the organising applications had to be brought down by Apple owing to the government pressure.

To counter this, the Spanish Authorities launched an investigation aiming to discover the individuals behind the group. They have also sent a takedown request to GitHub, demanding the Tsunami Democratic app to be removed and defining the organization "as a criminal organization driving people to commit terrorist attacks".

A wave of social protest broke over all of Latin America. Growing dissatisfaction with political leadership, social and economic constraints, reprisals against austerity measures in places like Chile, Ecuador, Colombia and Bolivia have mobilized citizens. People have resorted to the use of technology to report violence share security and legal advice. At the time of social unrest, communication becomes a problem due to network glitch but sometimes it is the deliberate government action to block and disrupt the network. Quito saw a similar incident when people started posting about military

deployments on the streets of Quito and the death of a protester and immediately the servers where the multimedia content gets stored were brought down.

Other than the usual measures taken to stop the protestors, some states like Chile approved a bill that would penalise protestors for covering their faces during demonstrations. The surveillance systems and cameras used by Colombia state were advanced that had the ability to identify, in real-time, the features around the eyes and nose of people who have their faces covered. In Bogota, over 90 drones were used to monitor the demonstrations.

### **Forecast in 2020**

The recent developments tell us how each side has tried to use the technology to shift the balance of power in their direction and neutralise their opponent. In this stalemate, the outcome is not the main concern but the price paid by each side. While the state continues to neutralise the protest movements, people will also resort to new platforms and tools. There are positives and negatives concerning protesting as technology advances, the more it progresses, the more the mode of protesting and the ways of neutralising it will also see a progression. It becomes imperative to deal with the negative aspects of the use of technology by both sides. The issues created out of these situations pose a severe threat to states, people and property.

One of the issues is that too much reliance on social media has given more insights into a country's governance and social problems. Sometimes this becomes a source of embarrassment for the regimes of developing countries when the deeper pockets of the country remain exposed. Although there exist many parameters based on which the countries remain divided already, a digital divide has also started persisting within countries. The global digital divide is largely an economic story. Most advanced countries have better access to the internet while the underdeveloped and developing countries lag behind.

Countries where freedom of expression is limited, automated analysis of social media is used to assess public opinion. This can affect policymaking. The estimation of public opinion by analyzing social media, the production of daily census data, or the use of algorithms to estimate the effects of and connections between different policies, all these possibilities change the way how policymaking is perceived and executed. There are a number of ways in which policymaking and the changes caused by technological progress can be transformed into new ways of governance. The implementation of Big Data Analytics supports early-warning systems, and sentiment analysis of social media or real-time decision support systems have a potential influence on the elements, steps, and consecutive nature of the policy cycle. There is no limit in terms of age or how educated a person is when they handle technology in terms of operating as simple as a smartphone

or accessing a social website. But hardly 5-10% of the functionality of the technologies is known to most of the people. The fact that the technology is simple to use and it just works for anybody can be troublesome when anything out of the ordinary appears and people are not aware of the action to be taken. There is little or no attempt at trying to understand the cause and therefore no sight of the consequences. This technological literacy needs to be addressed. Reaching the uneducated, non-tech-savvy population remains a challenge as it requires to overcome limitations of technology.

With the shelter of anonymity, comes the danger of targeting the wrong people and the actual intent of the social movement could be lost. Though protestors have found a way by going incognito to evade police from identifying them it increases the risk of punishing the innocents. The surveillance systems are designed by algorithms which stand a high chance of going wrong and show results in case of similar features of two people.

Manipulation of systems can lead to loss of property and lives. When there is a stealthy manipulation of data for profits then we call it a data manipulation attack. Data manipulation attacks could result in as small as hacking a personal account to very big trouble of crippling organizations as data breaches. Data manipulation may result in distorted perception by shifting data around, which could lead to billions of dollars in financial loss or even potential loss of life, depending on the system in question, and the type of data being altered. Someone gaining access to biometric databases, health information, military codes, and secrets can create havoc and endanger millions of lives.

In the coming days, protest movements could involve the use of more creativity and innovation. Technology has forever changed how plans for protests are executed by helping people communicate. Already the old-style authoritarian governments are replaced with more tech-savvy authoritarian governments. The digital space has undergone a remarkable transformation. With the industrial 4.0 revolution catching up the pace in all the sectors the change is going to be more of inhuman giving way to automation. The future of the protest movements remains unpredictable. Some of the countries do not encourage gatherings of people in public spaces. People or groups need to take prior approval from the government for any type of demonstration. This has worked in favor of the governments as the state can avoid the rise of protest movements and the things that follow it later. In such cases, people can resort to online ways to show their dissent. There are high chances that online protests can replace the conventional way of protesting and people need not flock to the street anymore. The precision and the scale of surveillance systems can help states to reduce the corruption and criminal cases to a great extent. It is more likely to use these devices in other areas as well and protestors will have to be more cautious.

The divide between countries could widen up more. The economies of underdeveloped countries struggle to remain stable due to the poor living condition and access to basic amenities to its citizens remains always a priority. The wider use of technology in such cases would be a luxury difficult to afford. Technology can also result in the loss of hundreds of jobs as the automation is going to reduce the dependency on human effort. The Protest for employment creation is possible by all means to take place and the states can come under pressure to create more jobs. The forecast of the protests is going to be high-tech and we could see an techno-evolutionary arms race between authorities and protesters. Ultimately technology is merely a tool, and its use in an effective and responsible manner would serve the actual purpose of its invention.