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Media Influence Matrix: Pakistan

Technology, Public Sphere and Journalism

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The report was done with the participation of the Media Matters for Democracy in Pakistan.

About Media Matters for Democracy

Media Matters for Democracy is a non-profit organization working on freedom of expression, digital rights, media literacy, and media innovation in Pakistan. Its vision is to create an independent and safe media and cyberspace where Pakistani citizens in general and journalists specifically can exercise their fundamental rights and professional duties without fear of persecution and physical harm. Media Matters for Democracy's initiatives include policy advocacy, research, capacity building training, and strategic litigation.

Cover photo by the authors

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With particularly low internet penetration rates, intense state censorship and heavy Chinese investment, Pakistan presents elements of an authoritarian internet culture where surveillance is a barely-questioned norm, unless probed by civil society organizations or journalists.

Social media giants such as Facebook and Twitter have come into minor clashes with the Pakistani government where enforcing content blockage/regulation is concerned. For example, the government in 2018 expanded the remit of the Pakistan Telecommunication Authority (PTA) to allow the regulator to block various types of content.[1] Journalists have begun to self-censor out of threats to their lives. Nearly

88% of Pakistan's journalists said that they self-censored, according to a 2018 survey carried out by Media Matters for Democracy, a local NGO. [2]

China, with its China-Pakistan Economic Corridor and One Belt One Road initiative, is exporting its regulatory model of surveillance to Pakistan, thus worsening the situation. A handful of digital human rights civil society organizations have sprung up over the past few years such as Media Matters for Democracy, Digital Rights Foundation and Bytes4All, all with the aim of fighting back against invasion of privacy, freedom of speech, and safety of journalists, and raising awareness about the issue of internet and human rights in Pakistan.

TECHNOLOGY OVERVIEW

Since 2010, mobile phone penetration has been steadily increasing in Pakistan as the number of fixed lines has declined massively. This tendency is in line with global trends, as people prefer more mobile communication to old communication based on landlines. However, there are major digital divisions in Pakistan's society, the more pronounced being the gender-based one. According to a 2016 International Telecommunication Union (ITU) report, Pakistan has the world's highest gender divide in mobile phone ownership.[3]

Speaking habits

Overview of telephone penetration in Pakistan, 2010-2016

Indicator	2010	2011	2012	2013	2014	2015	2016	2017
Fixed-line telephony (total no of subscriptions)	6,097,095	5,721,725	5,861,915	6,370,860	4,897,814	3,537,600	3,104,415	2,940,243
Fixed-line telephony (per 100 inhabitants, %)	3.6	3.3	3.3	3.5	2.6	1.9	1.6	1.5
Mobile telephony (total no of subscriptions)	99,185,844	108,894,518	120,151,237	127,737,286	135,762,031	125,899,638	136,489,014	144,525,637
Mobile telephony (per 100 inhabitants, %)	58.2	62.5	67.5	70.3	73.2	66.5	70.7	73.4

Source: World Bank

[1] Talha Saqib, "PTA deploy "national firewall" to block sensitive content in Pakistan," 21 February 2018, TechJuice, available online at <https://www.techjuice.pk/pta-deploy-national-firewall-block-sensitive-content-pakistan/> (accessed on 2 June 2019).

[2] Waqas Naeem (lead researcher), "Surrendering to Silence: An Account of Self-censorship among Pakistani Journalists," Media Matters for Democracy, 2018, available online at <http://digitalrightsmonitor.pk/wp-content/uploads/2018/05/report-1.pdf> (accessed on 1 June 2019).

[3] Ismail Sheikh, "Pakistan has world's highest gender gap in mobile phone usage," The Express Tribune, 23 November 2016, available online at <https://tribune.com.pk/story/1239596/pakistan-worlds-highest-gender-gap-mobile-phone-usage/> (accessed on 1 April 2019).

While information regarding internet penetration rates in Pakistan often varies, the most recent estimations range between 15.5% and 17.8% of the country's total population. For example, a recent survey of 2,000 Pakistani households by LirneAsia, a Sri Lanka-based ICT policy and regulation think-tank, revealed that 69% of Pakistanis had never heard of the internet, and 53% of those who do have a phone, do not have a data package.[4] This contradicts Pakistan Telecommunication Authority's (PTA) claim of maximum tele-density. Despite these uncertainties, even the most optimistic estimates place Pakistan well behind the global[5] and regional penetration averages, which are 46.1% and 45.2%, respectively.

Civil society organizations have voiced concerns regarding the country's broad regional and gender digital divides.[6] According to the latest International Telecommunications Union (ITU) data, only 9.5% of women use the internet as compared to 15.4% of men. A more recent study, from Bytes4All, shows that in 2018, 21% of Pakistan's men were online, compared to 12% of women.[7] Additionally, the government continues to restrict internet connectivity in certain regions, particularly less developed ones such as Balochistan.[8] From July 2015 to June 2016, such connectivity restrictions cost Pakistan's economy an estimated US\$ 70m.[9]

The internet universe

Internet penetration and usage in Pakistan, 2010-2017

	2010	2011	2012	2013	2014	2015	2016	2017
No of internet users	13,603,513	15,630,268	17,668,268	19,749,998	25,536,111	31,318,346	34,342,400	n/a
Penetration of users (% of total population)	8.0%	9.0%	10%	10.9%	12.0%	14%	15.5 %	15.5%
No of households with internet connection (% of total)*	n/a	n/a	8%	8%	8.3%	8.3%	13.2%	n/a

n/a: not available

Source: CMDS based on data from ITU, World Bank

The broadband market is dominated by Pakistan Telecommunication Company Limited (PTCL).[10] Approximately 88% of the broadband market is taken up by mobile internet.[11] Broadband subscriptions based on Digital Subscriber Line (DSL) remain concentrated in Pakistan's urban areas, with most rural areas lacking broadband access entirely.[12] Since 2014, PTA has required that

[4] Jamal Shahid, "Most Pakistanis do not know what the internet is: Report," 12 November 2018, Dawn, available online at <https://www.dawn.com/news/1444979> (accessed on 1 April 2019).

[5] Internet Live Stats. Internet Users in the World.

[6] "Submission to UN Human Rights Commission For The Report To Bridge Gender Digital Divide," Digital Rights Foundation, 5 April 2017, available online at <https://digitalrightsfoundation.pk/drfs-submission-to-un-human-rights-commission-for-the-report-to-bridge-gender-digital-divide/> (accessed on 2 April 2019).

[7] Jahanzaib Haque, "Pakistan's Internet Landscape, 2018," Bytes For All, available online at <https://www.bytesforall.pk/sites/default/files/Internet%20Landscape%20Report%202018.pdf> (accessed on 1 June 2019).

[8] Freedom House, Freedom on the Net 2018, 2018, available online at <https://freedomhouse.org/report/freedom-net/2018/pakistan> (accessed on 1 April 2019).

[9] "\$70 million — the loss to Pakistan's economy from internet shutdowns", Dawn, 7 October 2016, available online at <https://www.dawn.com/news/1288608> (accessed on 1 April 2019).

[10] Adam Senft, et al., O Pakistan, We Stand on Guard for Thee: An Analysis of Canada-based Net Sweeper's Role in Pakistan's Censorship Regime, Citizen Lab, June 20, 2013, available online at <https://citizenlab.org/2013/06/o-pakistan/> (accessed on 2 April 2019).

[11] Farooq Baloch, "Mobile broadband demand growing at rapid pace," The Express Tribune, 23 February 2016, available online at <https://tribune.com.pk/story/1052274/shift-in-trend-mobile-broadband-demand-growing-at-rapid-pace/> (accessed on 1 April 2019).

[12] Freedom on the Net 2018, cit.

Internet Service Providers (ISPs), telecommunications companies and Subscription Identification Module (SIM) card providers verify users with biometric data.[13]

In 2015, the government disconnected nearly 26 million SIM cards that failed to meet the registration requirements.[14] These requirements could deepen the country's digital divide, as some of its poorest and most vulnerable groups—particularly women and gender non-binary individuals—lack access to the information and funds required to secure the mandated computerized national ID cards.[15]

Pakistan's surfers

Broadband connection, 2010-2017

	2010	2011	2012	2013	2014	2015	2016	2017
Fixed broadband (total no of subscriptions)	789,487	1,166,301	1,516,809	1,628,105	2,008,684	1,793,199	1,642,805	1,829,673
Fixed broadband subscriptions per 100 inhabitants (%)	0.46	0.67	0.85	0.9	1.08	0.95	0.85	0.93

Source: CEIC data

The computer platform market for both mobile and tablet is dominated by Samsung, which currently has around 40% share on both mobile and tablet market. Samsung is followed by Huawei and QMobile in the mobile market. Apple comes second in the tablet market with a share nearing 30%. In the mobile market though, its share is significantly lower. By far, the biggest market share for mobile belongs to Samsung (40.8%), followed, with a large margin, by Huawei (14%).

The lords of the platforms

Market share of computer platforms (% share), Jan 2018-Jan 2019

Vendor	Mobile	Tablet
Samsung	39.6	40.4
Apple	3.6	29.9
Unknown	12.2	10.9
Amazon	n/a	4.8
Acer	n/a	1.9
Kupa	n/a	1.9
woPad	n/a	1.5
QMobile	7.4	1.2
Alcatel	n/a	1.1
Lenovo	1.8	0.9
Other	5.9	5.1
Huawei	12.1	n/a
Oppo	6.1	n/a
Nokia	5.0	n/a
Motorola	4.5	n/a
LG	1.9	n/a

n/a: not available
Source: StatCounter

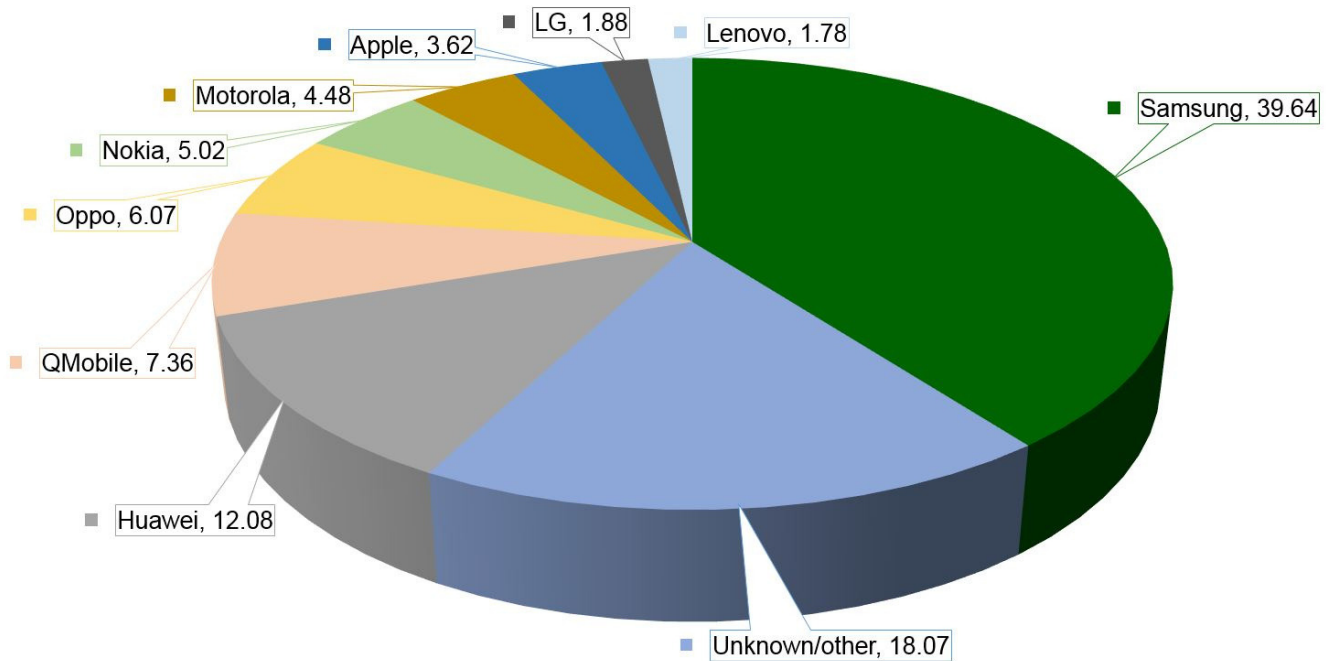


[13] "SIM to be issued after biometric verification", Dawn, 29 July 2014, available online at <https://www.dawn.com/news/1122290> (accessed on 3 April 2019).

[14] Aamir Attaa, "26 million SIMs Blocked As SIM Reverification Drive Ends, ProPakistani, 13 April 2015, available online at <https://propakistani.pk/2015/04/13/sim-reverification-drive/> (accessed on 9 April 2019).

[15] Ibtasam, Samia, Lubna Razaq, Haider W. Anwar, Hamid Mehmood, Kushal Shah, Jennifer Webster, Neha Kumar, and Richard Anderson. "Knowledge, Access, and Decision-Making: Women's Financial Inclusion In Pakistan" in Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies, p. 22. ACM, 2018.

Mobile vendor market share (%), 2018-2019



Source: StatCounter

The market for operating systems is largely dominated by Android across all platforms with nearly two-thirds of the market, followed by Windows with more than a quarter of the overall OS market. The majority of desktops (nearly 88%) use Windows while the majority of mobile operating systems (almost 90%) run under Android.

OS preferences

Operating System market share (%), 2018-2019

OS	Windows	Android	iOS	Unknown	Nokia Unknown	OS X	Symbian OS	Blackberry OS	Series 40	Other	Chrome OS	Linux
All platforms	26.1	62.9	3.0	4.3	1.2	0.9	n/a	n/a	n/a	1.5	n/a	n/a
Desktop	87.9	n/a	n/a	8.4	0.5	2.9	n/a	n/a	n/a	n/a	0.1	0.6
Mobile	0.6	89.5	3.6	2.7	1.8	n/a	0.5	0.1	1.1	0.18	n/a	n/a
Tablet	0.1	69.3	29.9	0.3	n/a	n/a	n/a	0.1	n/a	n/a	n/a	0.2

n/a: not available

Source: StatCounter

Google Chrome takes the lead in browser market share across all three platforms: desktop, mobile, and tablet, dominating almost the entire market. Next to Chrome, other platforms such as Android, Safari, and UC Browser hold significantly lower shares.

The surfing pie

Browser market share (%), 2018-2019

Browser	Chrome	Firefox	UC Browser	IE	Opera	Other	Samsung internet	Edge	Safari	Nokia	Android
All platforms	69.4	2.5	11.5	0.6	6.1	0.8	2.2	0.5	n/a	n/a	3.8
Desktop	81.3	8.4	2.7	1.9	3.2	2.6	n/a	n/a	n/a	n/a	n/a
Mobile	65.2	n/a	15.3	0.5	7.4	0.3	3.2	0.1	2.9	0.2	4.8
Tablet	36.6	n/a	4.6	n/a	2.9	1.2	n/a	n/a	25.4	n/a	29.2

n/a: not available

Source: StatCounter

Nearly all those online in Pakistan rely on Google as their search engine. Across all platforms, Google remains unchallenged, with Bing and Yahoo! holding nearly negligible shares of less than 3% each.

Content seekers

Search engine market share (%), 2018-2019

Search engine	Google	Bing	Yahoo!
All platforms	97.9	0.6	1.2
Desktop	95.6	1.3	2.9
Mobile	99.4	0.3	0.2
Tablet	96.2	2.7	1.0

Source: StatCounter

According to a 2018 Gallup poll, 48% of internet users in Pakistan connect to social networking sites at least once a day.[16] Of those, Facebook and its own messaging platform WhatsApp remain the largest and most popular. While the overall percentage of Pakistanis on social media remains low, social networks have played an instrumental role in Pakistan's socio-political climate. The government has been known to suspend or restrict access to certain social media platforms and content, particularly since the passage of the Prevention of Electronic Crimes Act (PECA) in 2016.[17] Because PECA criminalizes the production and dissemination of certain kinds of online speech, social media users in Pakistan risk fines, prison-time or even death[18] for their use of social media. (See more in *Technology Companies & Government* in this chapter)

Social media use

Social media market share (%), 2018-2019 by platform

	Facebook	YouTube	Pinterest	Twitter	Instagram	Reddit
All platforms	89.7	4.4	1.6	2.8	0.8	0.2
Desktop	79.3	10.1	2.3	5.7	n/a	1.2
Mobile	91.9	3.1	1.4	2.3	1	n/a
Tablet	94.4	3.3	1.2	0.8	0.1	n/a

n/a: not available
Source: StatCounter

[16] "48% internet users in Pakistan claim to use social networking sites to access news at least once a day," Gallup, 26 February 2018, available online at <http://gallup.com.pk/48-internet-users-in-pakistan-claim-to-use-social-networking-sites-to-access-news-at-least-once-a-day/> (accessed on 7 April 2019).

[17] Freedom on the Net 2018, cit.

[18] "Pakistan sentences Christian man to death for blasphemy," Al Jazeera, 16 September 2017, available online at <https://www.aljazeera.com/news/2017/09/pakistan-sentences-christian-man-death-blasphemy-170916091856674.html> (accessed on 8 April 2019).

ROLE OF TECHNOLOGY IN MEDIA AND JOURNALISM

Overview and Profiles of Key Players

Operational aspects

Internet and mobile

The big players in internet and mobile

Company	Email service	Messaging and VoIP	Mobile ecosystems	Search	Social network & blog	Video & photo
UC Web				✓		
Facebook		✓			✓	✓
Google	✓		✓	✓		✓
Microsoft	✓	✓		✓		
Samsung			✓			
Huawei			✓			
Twitter					✓	✓

Source: CMDS

Facebook



Facebook has no office in Pakistan, nor any local representatives.[19] However, they have now at least two people dedicated to covering Pakistan, both Pakistanis, who work from Facebook's Singapore office and visit Pakistan regularly. The company has plans to massively increase its staff on Pakistan in the coming year, according to a representative of Facebook in Singapore.

The closest regional offices are in India. In 2016, Facebook has told the Punjab Revenue Authority that it does not need to pay taxes as they operate from outside the country.[20] However, last year, Pakistan proposed a 5% tax on digital revenues, including Facebook. The Senate Standing Committee rejected this proposal as anti-business, but the final verdict rests with the National Assembly.[21]

[19] Jahanzaib Haque, "Analysis: What You Cannot See On Facebook," Dawn, 7 November 2014, available online at <https://www.dawn.com/news/1142801> (accessed on 1 May 2019).

[20] Muneeb Ahmad, "Facebook Says It Doesn'T Have To Pay Taxes In Pakistan," Techjuice, 29 July 2016, available online at <https://www.techjuice.pk/facebook-says-it-doesnt-have-to-pay-taxes-in-pakistan/> (accessed on 1 May 2019).

[21] Shahbaz Rana, "Pakistan Moves To Tax US Tech Giants Including Google, Facebook," The Express Tribune, 5 May 2018, available online at <https://tribune.com.pk/story/1702649/2-pakistan-moves-tax-us-tech-giants-including-google-facebook/> (accessed on 1 May 2019).

Google



Google does not have any operations based out of Pakistan currently, but has certainly expressed interest. In 2012, Google's executive chairman Eric Schmidt visited Pakistan[22] to explore market opportunities, hailing it as the “next big market in the region.” The company increased its presence on the ground by getting involved in local projects such as Innovation Punjab[23] where they partnered with the Punjab Information Technology Board. In addition, they collaborated with Pakistan Software Houses Association[24] to support young entrepreneurs. In 2018, Google published an article[25] encouraging investors to expand their digital campaigns to Pakistan, hailing it “on track to produce one of the largest digital audiences in the world.”

Twitter



Twitter has no local office in Pakistan. As of 2018, Twitter's legal department has been handling Pakistan's censorship requests more seriously, with several users reporting that they had received legal notices, regardless of their nationality or geographical location, that they had broken Pakistan's laws, with tweets typically relating to blasphemy.[26] However, Twitter remains unresponsive to the government's requests in spite of threats that the service would be blocked in the country.[27] In the period July-December 2018, Pakistan sought removal of some 2,400 accounts from Twitter, but the social network ignored all these requests.[28]

Huawei



Huawei is the leading communications equipment provider in Pakistan, with a 45% market share. It operates three training centers in the country and cooperates closely with the government's technology experts.[29] In 2016, the company sponsored the launch of the National Data Center of Pakistan, which is run by the National Telecommunication Corporation (NTC).[30] It has also worked with the city of Lahore to install

[22] Farooq Baloch, “Up And Coming: Google Sees Strong Potential In Pakistani Market,” The Express Tribune, 11 September 2012, available online at <https://tribune.com.pk/story/434461/up-and-coming-google-pakistan-earns-500-million-in-revenue/> (accessed on 7 April 2019).

[23] See more on Innovation Punjab (@Innovate_Punjab) on Twitter at https://twitter.com/innovate_punjab (accessed on 6 April 2019).

[24] See more about the organization at <http://pasha.org.pk/> (accessed on 6 April 2019).

[25] Lars Anthonisen, “5 Reasons To Expand Your Digital Strategy Into Pakistan,” Think With Google, November 2018, available online at <https://www.thinkwithgoogle.com/intl/en-apac/trends-and-insights/5-reasons-expand-your-digital-strategy-pakistan/> (accessed on 6 April 2019).

[26] Anthony Furey, “FUREY: The Pakistan Government Is Accusing Me Of A Crime – And Twitter Is Acting As Its Messenger,” Toronto Sun, 8 December 2018, available online at <https://torontosun.com/opinion/columnists/furey-the-pakistan-government-doesnt-like-one-of-my-old-tweets-and-twitter-passed-along-the-message#comments> (accessed on 1 May 2019).

[27] Jamal Shahid, “Twitter Threatened With Shutdown In Pakistan,” Dawn, 16 August 2018, available online at <https://www.dawn.com/news/1427274> (accessed on 1 May 2019).

[28] Talal Raza, “Pakistan sought removal of 2349 Twitter accounts during second half of the year,” Digital Rights Monitor, 10 May 2019, available online at <http://digitalrightsmonitor.pk/pakistan-sought-removal-of-2349-twitter-accounts-during-second-half-of-the-year/> (accessed on 2 June 2019).

[29] “Huawei Sends 18 Pakistani Teachers for ICT-Related Training Course in China,” ProPakistani, available online at <https://propakistani.pk/2018/12/28/huawei-sends-18-pakistani-teachers-for-ict-related-training-course-in-china/> (accessed on 4 April 2019).

[30] Jahanzaib Haque & Qurat ul ain Siddiqui, “Exclusive: The CPEC plan for Pakistan's digital future,” Dawn, 22 March 2019, available online at <https://www.dawn.com/news/1361176/exclusive-the-cpec-plan-for-pakistans-digital-future> (accessed on 6 April 2019).

some 8,000 surveillance cameras in public areas through a public-private-partnership (PPP) agreement known as the “Punjab Safe City Project.”[31] Recently, Huawei removed its wi-fi modules from the CCTV system at the request of the Punjab Safe City Authority (PSCA), which implemented the project. The local authorities allegedly decided to remove the Huawei modules (which helped transmit video feed to the central control unit) because of suspicions of backdoors in the Huawei system. A company spokesperson said that there had been a “misunderstanding.”[32]

Telecommunications

The Pakistan Telecommunications Authority (PTA), which is responsible for the country’s telecommunications regulations, has reported 12 licensed wireless local loop (WLL) operators, 16 long distance and international (LDI) operators, and 21 operational fixed local loop (FLL) operators.[33] Key telecommunications providers include companies such as Jazz, Telenor, Ufone and Zong. According to Digital Rights Foundation, a Pakistan-based NGO, all of these providers lack digital security safeguards, and none require user notification about third-party requests for information.[34] This is particularly concerning given the biometric data collection requirements imposed by the country’s telecom regulator, PTA. According to data from Media Matters for Democracy, none of the eight largest telcos in Pakistan are transparent in data sharing and privacy practices.[35] When Telenor’s network was hacked in 2017, Digital Rights Monitor found that the law in Pakistan doesn’t oblige telcos to have digital security standards in place.

Top telcos

Sales revenues of prominent telecommunication operators and internet service providers in Pakistan 2015-2017

Company	Market share (%)	Ownership	Country of ownership	Sales revenue (PKR bn)		
				2015	2016	2017
Pakistan Mobile Communications Limited (Jazz)*	36.5	Subsidiary of VEON	Netherlands	94.3	122.7	144.0
Telenor Pakistan	28.5	Telenor Group	Norway	85.3	93.8	101.5
Ufone	14	Pakistan Telecommunication Company Limited (100%)**	UAE	49.4	51.3	151.6
Zong	21	China Mobile Pakistan (100%)	China	47.7	52.4	65.9

*merged from Mobilink and Warid

**purchased by Etisalat

Source: ProPakistani.pk

[31] “Punjab Safe City Project Inaugurated,” Dawn, 12 October 2016, available online at <https://www.dawn.com/news/1289650/punjab-safe-city-project-inaugurated> (accessed on 4 April 2019).

[32] Leo Kelion & Sajid Iqbal, “Huawei wi-fi modules were pulled from Pakistan CCTV system,” BBC, 8 April 2019, available online at <https://www.bbc.com/news/technology-47856098> (accessed on 2 June 2019).

[33] Freedom on the Net 2018, cit.

[34] “Telecoms Privacy & Data Protection Policies in Pakistan: A Research Study by Digital Rights Foundation,” available online at <https://digitalrightsfoundation.pk/wp-content/uploads/2017/02/Telecoms-Privacy-and-Data-Protection-Policies-in-Pakistan-1.pdf> (accessed on 6 April 2019).

[35] Adnan Ahmad Chaudhri, Night Dad, Shmyla Khan, Luavut Zahid, Hija Kamran, “Telecoms Privacy & Data Protection Policies in Pakistan,” Digital Rights Foundation, available online at <https://digitalrightsfoundation.pk/wp-content/uploads/2017/02/Telecoms-Privacy-and-Data-Protection-Policies-in-Pakistan-1.pdf> (accessed on 2 June 2019).

Jazz



Pakistan Mobile Communications Limited or Jazz is the country's largest telecommunications provider with 36.5% market share and sales revenue of PKR 144bn (€902m) in 2017. The company, formally known as Mobilink, has grown by almost 50% in the last three years due to its merger with the telecommunications company Warid.[36] It is a subsidiary of VEON, a global telecommunications company based out of Amsterdam. In mid-2018, Jazz had a total of nearly 20 million mobile customers, according to data from the company. Some 15 million of them were users of 3G connections.

Telenor



Telenor Pakistan is the country's second largest telecommunications provider by revenue. It is a subsidiary of the Norwegian-owned Telenor group; however, digital rights activists have pointed out discrepancies between the privacy policies of the Norwegian parent company and its local Pakistani subsidiary.[37] Telenor offers goods such as phone devices, and services including postpaid and prepaid SIM card packages, internet connections, radio and music streaming, sports alerts and religious mass streaming. In mid-2018, the company had some 13.6 million mobile service users, according to data from the company.

Ufone



Ufone has a share of 14% of Pakistan's telecom market. It is a subsidiary of Pakistan Telecommunications Limited (PTCL), which was purchased by Etisalat following the company's privatization in 2006. Ufone recently introduced 4G/LTE services in several of Pakistan's major cities.[38] PCTL joined China's One-Belt-One-Road AAE-1 (Asia-Africa-Europe-1) cable system in 2017, raising concerns about state censorship and surveillance among some civil society activists, as the Chinese model of internet regulation relies heavily on monitoring and firewalls.[39] Like all its competitors, Ufone offers prepaid and postpaid SIM card packages, cashback service and subscriptions to news services such as cricket news. The company had nearly 7.1 million subscribers in mid-2018, according to data released by the company.

Zong



Zong is the third largest telecommunications player in Pakistan with 21% market share. Zong is a subsidiary of China Mobile Pakistan, which is owned by China Mobile, a Chinese state-owned enterprise. The company's privacy policy is not available to the public, earning it criticism from Pakistan's digital rights community. Zong offers a broad array of goods and services including prepaid and postpaid SIM card packages, mobile broadband & 4G routers, data sharing packages, business branch connectivity and others.

[36] Aamir Attaa, "Here's How Much Mobile Companies Made in Revenues Over the Past Three Years," ProPakistani, available online at <https://propakistani.pk/2018/11/20/heres-how-much-mobile-companies-made-in-revenues-over-the-past-three-years/> (accessed on 4 April 2019).

[37] "Telecoms Privacy," Digital Rights Foundation, cit.

[38] Aamir Attaa, "Ufone is going 4G/LTE in Pakistan," ProPakistani, 9 February 2019, available online at <https://propakistani.pk/2019/02/09/ufone-is-going-4g-lte-in-pakistan/> (accessed on 6 April 2019).

[39] Saleha Zahid, "Bolo Bhi Statement on the Recent Internet Disruption in Pakistan," BoloBhi, 7 August 2017, available online at <http://bolobhi.org/bolo-bhi-statement-on-the-recent-internet-disruption-in-pakistan/> (accessed on 6 April 2019).

Technology Companies & Government

Where Facebook was once an open forum for discussion, it has now become a violent policing tool. [40] Facebook has said that it reviews all government requests carefully “with the goal of protecting the privacy and rights of our users.” [41] While Facebook shares some information regarding the number of government takedown requests, it does not provide information about the nature of or legal basis for the requests. Facebook’s data shows a spike in takedown requests from 2015 onwards, which is likely linked to the passage of the Prevention of Electronic Crimes Act known as PECA. However, such connections are difficult to conclude based on the limited information available. [42]

In 2017, Facebook representatives met with government officials to discuss Facebook’s compliance with the country’s content restrictions, particularly with regard to the removal of blasphemous content. During the meeting, Facebook’s Vice President of Global Public Policy affirmed the company’s commitment to “remove fake accounts, explicit, hateful and provocative material that incites violence and terrorism.” [43]

Critics have linked Facebook’s cooperation with the government’s censorship policies to its interest in expanding its Free Basics Project. The project, which was banned in India and Egypt following concerns related to breaches of net neutrality, allows users to access certain websites free of charge. Both Telenor and Zong, which together account for some 42.5% of Pakistan’s telecommunications market, already provide services through Facebook’s Free Basics Project. [44] Given Pakistan’s low internet penetration rate and ongoing issues related to access, such schemes run the risk of consolidating market dominance among a few, select players. In addition to Facebook, Zong also provides Google Duo free of charge for 30 days, and a three-day free trial for Instagram for prepaid subscribers, provided they make a new account under their Zong numbers. [45] None of Pakistan’s telcos provided any information about the criteria they use when choosing the apps for zero-rating; they simply market them as customer benefits.

Unlike Facebook, Google has been more reluctant to comply with government requests to block content. It has also been more willing to provide information regarding the nature of government removal requests. [46] According to Google’s most recent transparency report, over the period of January 2011 to May 2018, it received 292 removal requests from Pakistan’s telecommunication authorities. Most of the 3,478 items were YouTube videos, and the vast majority were submitted on either religious (61%) or defamation (14%) grounds. [47] Only 1% of requests were reported as being linked to national security.

[40] Sune Engel Rasmussen & Julia Carrie Wong, “Facebook was where Pakistan could debate religion. Now it’s a tool to punish ‘blasphemers,’” *The Guardian*, 22 July 2017, available online at <https://www.theguardian.com/technology/2017/jul/19/facebook-pakistan-blasphemy-laws-censorship> (accessed on 6 April 2019).

[41] Alex Hern, “Pakistan asks Facebook and Twitter to help identify blasphemers,” *The Guardian*, 17 March 2017, available online at <https://www.theguardian.com/world/2017/mar/17/pakistan-asks-facebook-twitter-help-identify-blasphemers> (accessed on 5 April 2019).

[42] Transparency: Pakistan, available online at <https://transparency.facebook.com/government-data-requests/country/PK> (accessed on 8 April 2019).

[43] “Facebook VP, Nisar discuss Removal of Blasphemous content,” *Dawn*, 7 July 2017, available online at <https://www.dawn.com/news/1343822/facebook-vp-nisar-discuss-removal-of-blasphemous-content> (accessed on 9 April 2019).

[44] Abad Pasha, “Is Facebook using Pakistan’s concerns about online blasphemy to advance its own interests?,” *Dawn*, 20 July 2017, available online at <https://www.dawn.com/news/1344029> (accessed on 6 April 2019).

[45] “Zong 4G Pakistan,” 2019, available online at <https://www.zong.com.pk/> (accessed on 1 May 2019).

[46] Ramsha Jahangir, “Pakistan’s Online Clampdown,” *Dawn*, 28 October 2018, available online at <https://www.dawn.com/news/1441927> (accessed on 9 April 2019).

[47] Google, “Transparency Report,” available online at <https://transparencyreport.google.com/government-removals/by-country/PK> (accessed on 9 April 2019).

One issue of concern when it comes to technology companies and their relation with the government is Pakistan's telecommunications cooperation with China through the China-Pakistan Economic Corridor, which experts say should be monitored closely. While many of the proposed projects have yet to be realized, both governments have pledged increased cooperation in the Information and Communication Technology (ICT) field ranging from joint telecommunications infrastructure projects to capacity building and educational programs.[48] The proposed projects could dramatically improve services in the country, but should be viewed with a critical eye in light of China's domestic crackdowns on internet freedom. For example, civil society advocates in Pakistan worry that proposals such as the ongoing Pakistan-China Optical Fibre Cable (PCOFC) project will increase the military's capacity for online surveillance.[49]

Technology Companies and Media

A lack of working funding models and a healthy digital economy, as well as the crackdown on online critical content and journalists, are by far the biggest challenges to online journalism in Pakistan. From a technology-related point of view, the country's low internet penetration rate, which is estimated at 15.5%, is arguably the biggest obstacle to the health of online media and journalism in the country. While internet access remains a serious obstacle for the majority of the country, those who are able to access content online face a variety of social and legal barriers.

Pakistan's Prevention of Electronic Crimes Act (PECA) has come to define the country's telecommunications landscape. PECA, which was passed in 2016 with a stated aim of preventing extremism and regulating "cyber-crime," severely restricts freedom of expression online. Numerous civil society organizations have criticized how the law impacts media freedom in Pakistan. For example, Section 37 of the law permits the regulator, PTA, to "block or issue directions for removal" of online content if it is deemed blasphemous, anti-military, or against "public order, decency or morality." The legislation gives the PTA extensive, unchecked censorship powers, which, together with data retention and surveillance mechanisms, as well as vague and broad restrictions on so-called "hate speech," constitute a violation of Pakistan's international obligations under Article 19 of the International Covenant on Civil and Political Rights.[50]

PECA, which was passed with very little input from civil society[51], has already had major repercussions for Pakistani journalists who face censorship, harassment, intimidation and arrest for online speech.[52] Since the passage of PECA, the PTA has blocked and suspended access to online publications critical of the government and the army.[53]

[48] Jahanzaib Haque & Qurat ul ain Siddiqui, "Exclusive..." cit.

[49] Umer Ali & Harris Bin Munawar, "Internet Landscape of Pakistan 2017," Bytes for All, available online at https://bytesforall.pk/sites/default/files/Internet_Landscape_Pakistan_2017.pdf (accessed on 9 April 2019).

[50] Ramsha Jahangir, "Pakistan's Online Clampdown", cit.

[51] Media Matters for Democracy, "Criminalizing Expression: A Study on Pakistan's Cyber Crime Legislation", available online at <https://drive.google.com/file/d/0B33BsAcI8yjHY0E5Y2U4QIU2Y28/view> (accessed on 1 May 2019).

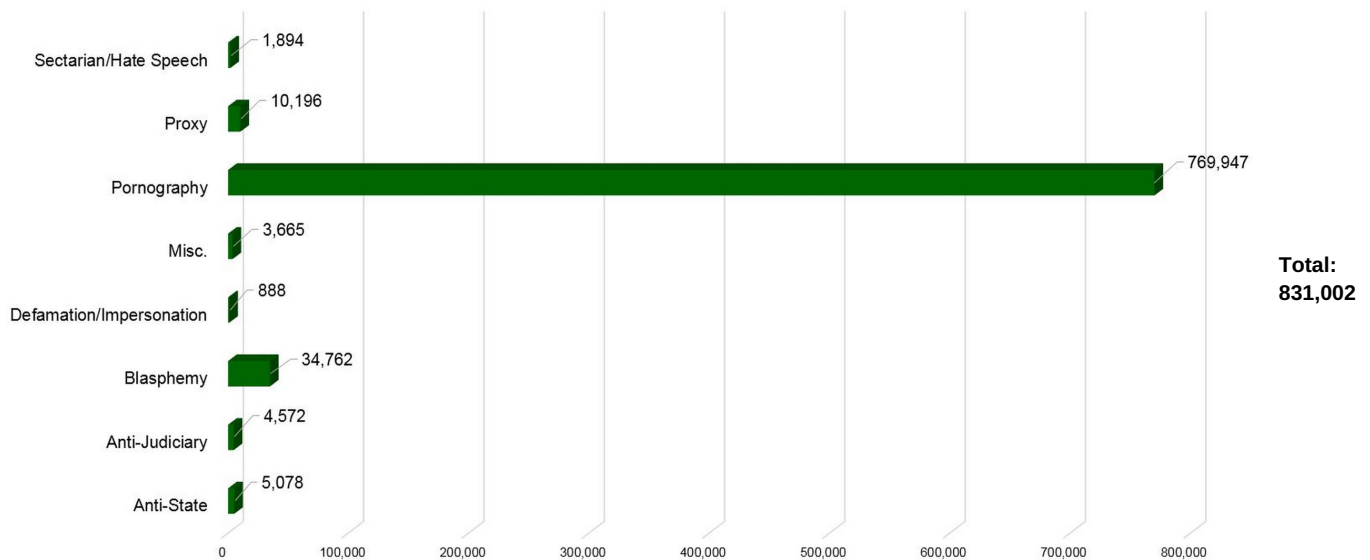
[52] Freedom on the Net 2018, cit.

[53] Jon Boone, "Dissenting voices silenced in Pakistan's war of the web," The Guardian, 18 February 2015, available online at <http://gu.com/p/45yba/stw> (accessed on 9 April 2019); Requests to access Youtube.com redirect users within Pakistan to <youtube.com/?hl=ur&gl=PK> (accessed on 9 April 2019).

Online censors

Online content blocked by Pakistan's Telecommunication Authority (PTA)

Number of Blocked URLs



Source: Dawn News, 2018

For example, in 2018, Facebook complied with the PTA's request to remove a government-critical Facebook post from Dawn, Pakistan's leading English-language newspaper.[54] The legislation has also provided the legal basis for the arrests of journalists. Such was the case of Zafarullah Achakzai, a reporter for a daily newspaper in the city of Quetta. Achakzai was the first to be arrested under PECA, and was taken into custody after posting a comment criticizing the Frontier Corps, a paramilitary group responsible for security in his province.[55] While Achakzai has since been released on bail, his case is but one of many, and illustrates how PECA impacts the online activities of journalists in Pakistan. Section 20 of PECA, which criminalizes "offenses against the dignity of a natural person" and is said to prevent cyber-harassment and defamation, provides no clear exemptions for journalists. While the legislation exempts broadcast media entities that are registered with the Pakistan Electronic Media Regulatory Authority (PEMRA), it provides no clear protections for individual media workers, news media accounts on social media, and, most importantly, print media in general.[56]

Social media, particularly Facebook, are highly controversial in Pakistan for their negative impact on society. Take mob violence. In 2017, a 34-year-old Hindu man was arrested for posting an "incendiary" image online[57], and mobs gathered outside the police station demanding his release so they could lynch him. A 10-year-old boy died in the process, and five others were wounded.[58]

[54] "Facebook blocks Dawn.com post in Pakistan," Dawn, 12 May 2018, available online at <https://www.dawn.com/news/1407158> (accessed on 9 April 2019).

[55] Gul Yousafzai, "Pakistani journalist arrested under cyber crime law," Reuters, 30 June 2017, available online at <https://www.reuters.com/article/us-pakistan-arrest/pakistani-journalist-arrested-under-cyber-crime-law-idUSKBN19LIS0> (accessed on 9 April 2019).

[56] Media Matters for Democracy, "Criminalizing Expression..." , cit.

[57] Ismail Sasoli, "Violence erupts in hub as police refuse to hand Hindu man suspected of blasphemy over to enraged mob," Dawn, 4 May 2017, available online at <https://www.dawn.com/news/1331035> (accessed on 9 April 2019).

[58] "Boy, 10, Killed In Attempted Blasphemy Lynching In Pakistan," The Guardian, 4 May 2017, available online at <https://www.theguardian.com/world/2017/may/04/10-year-old-boy-killed-attempted-blasphemy-lynching-pakistan> (accessed on 9 April 2019).

In a separate case, a 23-year-old journalism student was killed by his own classmates for posting online in support of a religious minority and hence alleging blasphemy.[59]

Due to socio-cultural restrictions on and barriers to internet access, Pakistani women are underrepresented on social media. Women who do use social media are disproportionately impacted by issues such as cyber-stalking, revenge porn, and online harassment. While PECA provides legal opportunities for women to report such issues, Pakistan's Federal Investigation Authority (FIA) lacks both gender-sensitivity training as well as the technical capacity required to process such requests.[60]

Misinformation Online

According to Freedom House, disinformation and the use of disinformation bots was particularly problematic during Pakistan's 2018 general elections.[61] In response to this problem, the Ministry of Information and Broadcasting launched 'Fake News Buster'[62], a Twitter account aimed at "tackling and exposing" disinformation. The credibility of this account is doubtful as it only seems to tackle and expose news related to party members; news related to wider events[63] is blatantly missing.

On the other hand, work by civil society groups in this area has thus far had more impact. Bolo Bhi, a digital advocacy organization, launched in spring 2019 a campaign[64] against fake news. A Pakistani news channel, ARY News, recently invited the director of Bolo Bhi to speak about the issue.[65] Media Matters for Democracy, another NGO, launched a campaign to help people identify reliable sources of information right before the general elections in 2018. The campaign reached out to 29 million people on Facebook and was amplified through full-page newspaper adverts in all of the country's main newspapers. As part of the campaign, Media Matters for Democracy also published a textbook in Urdu, one of Pakistan's two official languages, titled "Kya Yae Khabar Hai?" (Is this news authentic?) that provides simple tools and techniques to identify false news.[66] The organization also carried out Trends Monitor, a research project aimed at identifying manipulation for politics traction on Twitter, the first such methodology in Pakistan.[67]

The platforms most responsible for fake news include the messaging app WhatsApp,[68] which has proven particularly potent for the rapid spread of misinformation. The spread of misinformation and disinformation is compounded by Twitter where hashtags are promulgated with alarming

[59] Sune Engel Rasmussen & Kiyya Baloch, "Student's lynching sparks rare uproar In Pakistan over blasphemy killings," The Guardian, 26 April 2017, available online at <https://www.theguardian.com/world/2017/apr/26/lynching-of-a-student-sparks-uproar-in-pakistan-against-blasphemy-laws> (accessed on 9 April 2019).

[60] Interview with Fariha Aziz, journalist and co-founder of Bolo Bhi, a civil society organization in Pakistan.

[61] Freedom on the Net 2018, cit.

[62] Available online: https://twitter.com/FakeNews_Buster

[63] Jignesh Patel & Pooja Chaudhuri, "In wake of IAF strike on Balakot, welter of fake news circulates about Pakistani casualties," Scroll.in, 10 March 2019, available online at <https://scroll.in/article/916070/in-wake-of-iaf-strike-on-balakot-welter-of-fake-news-circulates-about-pakistani-casualties> (accessed on 9 April 2019).

[64] See: <https://twitter.com/BoloBhi/status/1097790248258555904>

[65] Bolo Bhi Facebook page, 2019, How And Why Does #Fakenews Spread, And How Can We Identify It?, video available online at <https://www.facebook.com/BoloBhi/videos/2105646709721457/> (accessed on 1 May 2019).

[66] See more about the textbook here: <http://mediamatters.pk/media-matters-for-democracy-launches-a-first-of-its-kind-urdu-booklet-to-help-pakistani-internet-users-to-identify-and-counter-online-misinformation/?fbclid=IwAR15eLZ62buj7SSVWC63J9HKHgnFpsmzqKrdl4DYTEcIc5Ezha-EFZVOQOM> (accessed on 1 June 2019).

[67] See more details bot this research project at <http://digitalrightsmonitor.pk/trendsmonitor/> (accessed on 1 June 2019).

[68] Aleena Niaz, "Psychology of fake news," Dawn, 1 February 2019, available online at <https://www.dawn.com/news/1461174> (accessed on 1 May 2019).

swiftness. Fake news comes mostly in the form of tampered or falsified images[69] on issues typically relating to politics. The motivation is usually less monetary and more for the sake of propaganda. However, Twitter users are more politically aware and quicker to spot doctored images; Facebook, on the other hand, with its broader user base, follows closely as a platform aiding in fake news.[70]

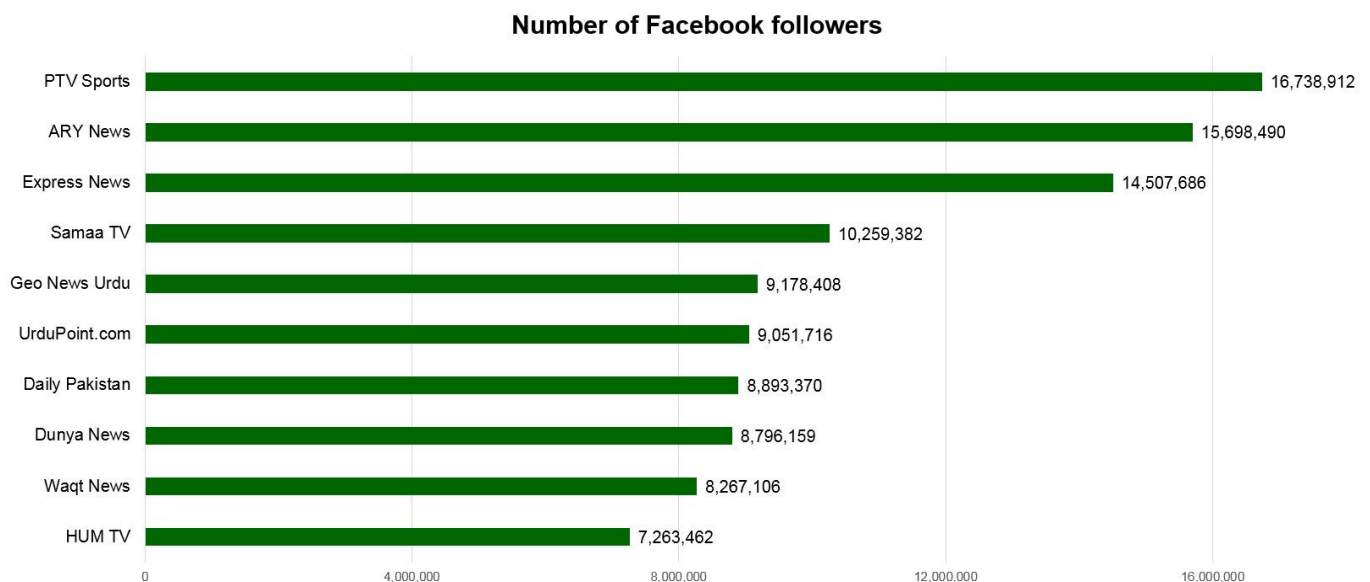
The rapid spread of misinformation is helped by the low ethical standards in local journalism. Journalism across many channels, regardless of ownership or reach, is sometimes irresponsible and sensationalist; in the absence of credible sources, an effective regulatory authority or adequate media literacy projects, journalists oftentimes lean on vague and elusive online content.[71]

Facebook and Media

The five most liked pages on Facebook in Pakistan are PTV Sports, ARY News, Express News, Samaa TV and Geo News Urdu. The content usually shared online by such media outlets mostly includes segments of talk-shows that were also aired on television. These channels have enormous influence in the country. A recent legal battle between the two largest media powerhouses, ARY News and Geo, was enough to be deemed by Al-Jazeera as a “proxy war between the establishment and the government of Pakistan.”[72] The head honchos, in clashing with the Pakistani intelligence agency and the military, faced attempts on their lives. Both organizations stooped to serious accusations such as blasphemy and defamation, both of which run the strong risk of vigilante justice. The case was resolved with US\$ 3.7m paid in damages to the plaintiff; the public spectacle highlighted the lack of professional ethics and standards in the journalism sphere.

The big players in internet and mobile

Most liked media pages on Facebook in Pakistan, April 2019



Source: Socialbakers

[69] Internet Landscape of Pakistan 2017,” Bytes for All, cit.

[70] Ramsha Jahangir, “How Social Media Has Become A War Zone For Competing Narratives,” Herald, 2 January 2019, available online at <https://herald.dawn.com/news/1398759> (accessed on 1 May 2019).

[71] “Psychology of Fake News,” Dawn, cit.

[72] “Pakistan’s GEO TV and ARY News Face Off,” 18 March 2017, Al Jazeera, available online at <https://www.aljazeera.com/programmes/listeningpost/2017/03/pakistan-geo-tv-ary-news-face-170318120831422.html> (accessed on 1 May 2019).

YouTube and Media

YouTube was banned in Pakistan from 2012 to 2016 on the grounds of blasphemy after an anti-Islam film uploaded to the platform incited protests and violence across the country. Using blasphemy as a justification, the state often exerts control over freedom of expression, resulting in losses to IT businesses that rely on Google's tools and platforms for clients abroad.[73] A civil society organization took the state to court, attracting international attention to the case.[74] The ban was lifted in 2016 after international pressure, and the launch of a localized and Pakistan-specific YouTube version that allows the state to block videos and regulate the platform with greater control. [75]

A moving target

Most watched media on YouTube in Pakistan, April 2019

Outlet	No of subscribers	Total views of uploaded videos
ARY Digital	7,112,384	3,548,053,859
Samaa TV	3,146,012	1,085,984,831
HUM TV	4,648,164	1,032,116,441
A Plus Entertainment	1,685,010	663,209,007
Geo News	3,766,955	611,199,034
Neo TV Network	1,509,388	335,526,688
ARY Zindagi	784,061	258,562,407
BOL Network	1,070,457	203,706,001
HUM TV Dramas	1,269,693	196,094,763

Source: Socialbakers

[73] "Content Regulation In Pakistan's Digital Spaces: June 2018 Human Rights Council Report," Digital Rights Foundation, 2018, available online at <https://digitalrightsfoundation.pk/wp-content/uploads/2017/12/DigitalRightsFoundationSubmissionSpecialRapporteurFreedomofExpression.pdf> (accessed on 1 May 2019).

[74] "YouTube – an internet freedom case that will impact on people throughout the Islamic world", Media Legal Defence Initiative, 2 November 2014, available online at <https://www.mediadefence.org/case-study/youtube-%E2%80%93-internet-freedom-case-will-impact-people-throughout-islamic-world> (accessed on 1 May 2019).

[75] "Pakistan unblocks access to YouTube," BBC, 18 January 2016, available online at <https://www.bbc.com/news/world-asia-35345872> (accessed on 1 May 2019).

Twitter and Media

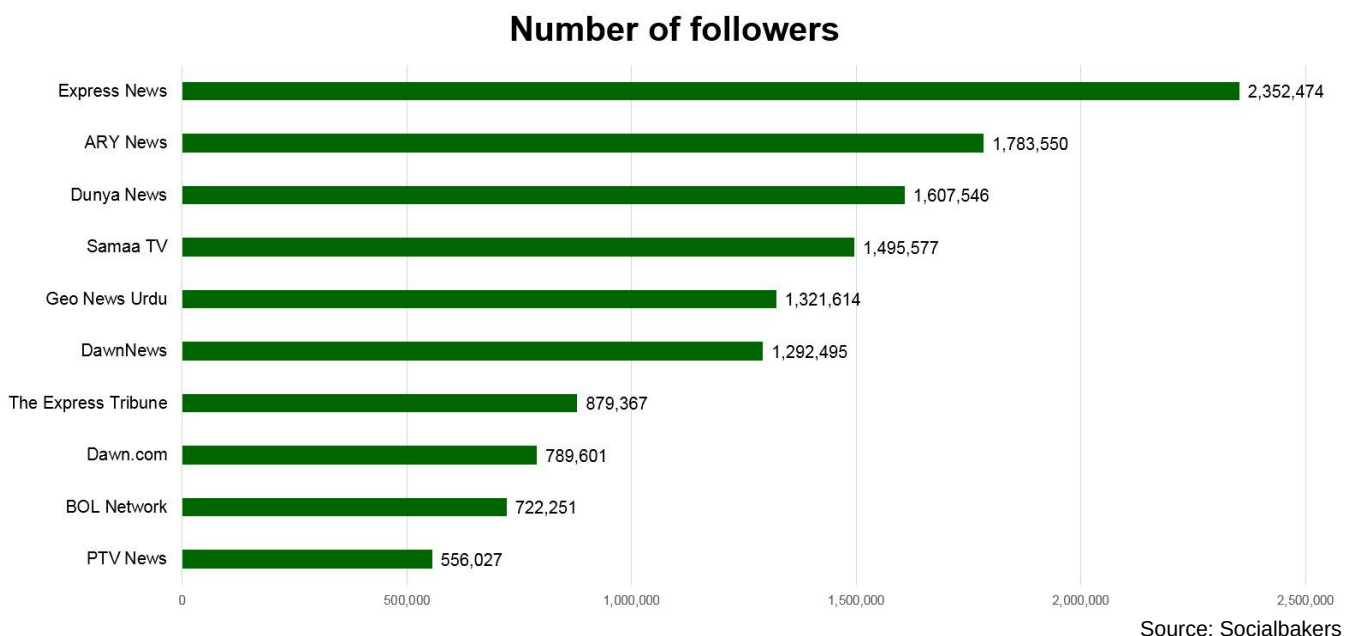
Twitter has become a key player in the Pakistani political landscape, with the 2013 election nicknamed the country's first Twitter election[76] because it was the first time social media became as intertwined with political outcomes as it did, possibly to mitigate election violence typical in the context.[77] The current governing party, which came to power unexpectedly in 2017, heavily relied on Twitter to garner support amongst its constituents, which at the time were mainly the youth.

Twitter has proven particularly problematic when it comes to safety. Journalists both at home and in the diaspora have reported receiving messages from Twitter warning them that they are violating Pakistan's laws for tweets as minor as asking the information minister about details regarding ongoing investigations.[78] A Dawn report released in May 2019 found that Twitter was the place where in April 2019 a total of 10 critical Pakistani journalists were the target of sustained smear campaigns (based on abuse, defamatory content and doctored images).[79] The report identified three types of networks trying to intimidate journalists on Twitter: "those who trend hashtags to augment the pro-government narrative; those who actively engage with journalists and activists critical of the government; and those who monitor and select 'targets'."

Such attacks have led to self-censorship among journalists particularly in covering the local security establishment (i.e., the military). Twitter's intervention has to do with a vested business interest: the company was threatened with complete blockage in the country after failing to respond to government requests to block certain types of content.[80]

Tweet is in the air

Ranking of the most popular media on Twitter in Pakistan, April 2019



[76] Ahmed, Saifuddin & Skoric, Marko. (2015). Twitter and 2013 Pakistan General Election: The Case of David 2.0 Against Goliaths. 139-161. 10.1007/978-3-319-08081-9_9.

[77] Jessica McKenzie, "Pakistanis Take Refuge In Social Media Campaigning Before Election," Techpresident, 8 May 2013, available online at <http://techpresident.com/news/wegov/23853/pakistanis-take-refuge-social-media-campaigning-election> (accessed on 1 May 2019).

[78] Umer Ali, "Warnings To Journalists Blur Twitter'S Transparency In Pakistan," Coda, 19 February 2019, available online at <https://codastory.com/authoritarian-tech/twitter-warns-pakistan-journalists/> (accessed on 1 May 2019).

[79] Ramsha Jahangir, "Special report: The mechanics of silencing online dissent," 19 May 2019, Dawn, available online at <https://www.dawn.com/news/1483248/special-report-the-mechanics-of-silencing-online-dissent> (accessed on 2 June 2019).

[80] Jamal Shahid, "Twitter Threatened With Shutdown In Pakistan," Dawn, 16 August 2018, available online at <https://www.dawn.com/news/1427274> (accessed on 1 May 2019).



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