



Internet Monitoring Action Project

# iMAP Vietnam 2023

# Internet Censorship

# Report

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## **About iMAP**

The Internet Monitoring Action Project (iMAP) aims to establish regional and in-country networks that monitor network interference and restrictions to the freedom of expression online in 10 countries: Myanmar, Cambodia, Hong Kong, India, Indonesia, Malaysia, Philippines, Thailand, Timor-Leste and Vietnam. Sinar Project is currently working with national digital rights partners in these 10 countries. The project is done via Open Observatory Network Interference (OONI) detection and reporting systems, and it involves the maintenance of test lists as well as the collection and analysis of measurements.

More information is available at [imap.sinarproject.org](https://imap.sinarproject.org). Any inquiries and suggestions about this report can be directed to [team@sinarproject.org](mailto:team@sinarproject.org).

## **About Sinar Project**

Sinar Project is a civic tech initiative that uses open technology, open data, and policy analysis to systematically make important information public and more accessible to the Malaysian people. It aims to improve governance and encourage greater citizen involvement in the public affairs of the nation by making the Parliament and the Malaysian Government more open, transparent and accountable. More information is available at <https://sinarproject.org>.

## **How to Use This Report**

Recommendations to audience:

- Supporting evidence of internet censorship
- Understanding what is the latest development of internet censorship in the country, in terms of methods of blockings and the websites affected by censorship
- Policy advocacy
- Call for action

This report is not meant to provide comparison of measurements across countries or measurements among different website categories covered by the iMAP project.

## Abbreviations

ALDR	Alcohol & Drugs
ANON	Anonymization and circumvention tools
ASN	Autonomous System Number
COMT	Communication Tools
CTRL	Control content
CULTR	Culture
DNS	Domain Name System
COMM	E-commerce
ECON	Economics
ENV	Environment
FILE	File-sharing
GMB	Gambling
GAME	Gaming
GOVT	Government
HACK	Hacking Tools
HATE	Hate Speech
HOST	Hosting and Blogging Platforms
HUMR	Human Rights Issues
HTTP	Hypertext Transfer Protocol
IGO	Intergovernmental Organisations
ICCPR	International Covenant on Civil and Political Rights
iMAP	Internet Monitoring Action Project
IP	Internet Protocol
ISP	Internet Service Provider
MMED	Media sharing
MISC	Miscellaneous content
NEWS	News Media
DATE	Online Dating
OONI	Open Observatory Network Interference
POLR	Political Criticism
PORN	Pornography
PROV	Provocative Attire

PUBH	Public Health
REL	Religion
SRCH	Search Engines
XED	Sex Education
GRP	Social Networking
MILX	Terrorism and Militants
TCP	Transmission Control Protocol
TLS	Transport Layer Security

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## **Key Findings**

- The OONI data in Vietnam reveals that 11.39% of visits to 2,329 websites were inaccessible across 20 different Internet Service Providers (ISP), between 1 July 2022 and 30 June 2023. Among these ISPs, blockings were found to be implemented by three major providers, Viettel Group, VNPT Corporation, and MOBIFONE Corporation. All of the blocking cases have been confirmed by OONI.
- Vietnamese ISPs appear to be primarily implementing censorship through DNS and HTTP requests which serve block pages. The main types of blocked sites include political criticism sites, new media websites, and human rights websites.
- Political criticism websites had the highest number of blocks, followed by foreign news websites and human rights issue websites. The fourth was social networking pages. Unlike the good accessibility status as in the 2022 report where social networking sites were inaccessible only 1.8% of the time, social networking sites were relatively controlled in 2023 and were inaccessible 5.1% of the time.
- WhatsApp and Telegram appeared to be accessible in all tested networks during the testing period. Facebook Messenger showed anomalies in February 2023 but only on certain networks.

The Swedish Ambassador to Vietnam Pereric Högberg affirmed that Vietnam is making good use of opportunities from the internet, being one of the leading countries in Southeast Asia in terms of internet connection and development.<sup>1</sup> Vietnam does not limit the use of the Internet and social networks.<sup>2</sup> However, there are still websites with controlled access in Vietnam.

Vietnam is one of the countries with the strictest surveillance in all aspects. Internet censorship is one of the methods used by the government for national security. From 1 July 2022 to 30 June 2023, more than 1.195.068 measurements (2,329 URLs) were tested from the global test list and country test list. The country test list contains over 500 URLs based on the selected URL test list. Of these, more than 300 URLs were reported as blocked or inaccessible, mostly from political, news media, and human rights websites. Freedom of speech and the press in Vietnam appear to be restricted without improvement. Independent news outlets such as the BBC, CNN, RFA, RFI, and VOA have also been blocked in the past. Accordingly, VPN tools have become very popular in the country.

This report aims to examine the current state of internet censorship in Vietnam by collecting and analysing network measurements and therefore increasing the transparency of internet controls in Vietnam and human rights as a result.

The report is constructed in four parts. First, it provides information about Vietnam's network landscape and internet penetration. Second, it discusses the legal environment surrounding the freedom of expression, access to information, and privacy in Vietnam. The third part describes cases of censorship and surveillance reported in the country. The fourth part of the report documents this study's methodology and key findings.

## **Background**

Vietnam is a socialist republic country in Southeast Asia. With a population of almost 100 million people, this country is situated in a strategic location on the Indochina peninsula. The country is bordered to the north by China, to the west by Laos and Cambodia, and to the east by a long coast comprising the South China Sea.

Vietnam is a multi-ethnic country made up of 54 ethnic groups. The Kinh ethnic group accounts for 85.4% of the population, while the remaining 53 ethnic groups make up only 14.6%.<sup>3</sup> The majority of Vietnamese people practise folk religions (45.3%), while 16.4% of

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<https://tuyengiao.vn/bao-ve-nen-tang-tu-tuong-cua-dang/tu-do-internet-o-viet-nam-mot-thuc-te-khong-the-phu-nhan-113371>

<sup>2</sup> <https://vov.vn/chinh-tri/viet-nam-khong-gioi-han-su-dung-internet-va-mang-xa-hoi-post929064.vov>

<sup>3</sup> Open Development Vietnam. (2019). Ethnic minorities and indigenous people. Retrieved from <https://vietnam.opendevlopmentmekong.net/topics/ethnic-minorities-and-indigenous-people/>



the population are Buddhists, 8.2% are Christians, and about 30% are unaffiliated with any religion.<sup>4</sup>

Vietnam's transformation from one of the world's poorest countries in the 1980s to low middle-income status by 2010 is considered an economic success story. The Doi Moi reforms in 1986 led the country from a centralised economy to a liberalised and open market economy that has high levels of foreign direct investment.<sup>5</sup> Since the 1990s, Vietnam has had one of the world's fastest GDP growth rates, at 6.86% annually from 1990 to 2019,<sup>6</sup> lifting millions of people out of poverty. Despite the COVID-19 pandemic, Vietnam is predicted to be one of the few economies with strong resilience and positive growth in the coming period.<sup>7</sup>

<b>Population</b>	98,8 million
<b>Internet penetration (% of population using the internet)</b>	73.2%
<b>Mobile subscriptions (per 100 inhabitants)</b>	138.87
<b>Freedom on the Net ranking (2022)</b>	22/100; Not free
<b>Religion (%)</b>	Folk religions: 45.3%; No religion: 30%; Buddhism: 16.4%; Christianity: 8.2%
<b>ICCPR Ratification</b>	Yes

## Social, Political, and Economic Landscape

*(No update from 2022 report)*

The politics of Vietnam are dominated by a single party: the Communist Party of Vietnam (CPV). While the ideological orthodoxy of Communism has become less important over time, the country is still strongly influenced by the CPV. The General Secretary of the CPV is the supreme leader leading the communist party and is head of the Politburo and the Central Military Commission. At the same time, the President is the head of state, and the Prime Minister is the head of government. Executive power is exercised by the government and the state, while legislative power is vested in the National Assembly of Vietnam. The judiciary is independent of the executive.<sup>8</sup> However, the separation of powers among the executive,

<sup>4</sup> Pew research center. (2012). The Global Religious Landscape. Retrieved from <https://www.pewresearch.org/religion/2012/12/18/global-religious-landscape-exec/>

<sup>5</sup> Cameron A, et al. (2019). Vietnam's future digital economy – Towards 2030 and 2045. CSIRO, Brisbane. Retrieved from <https://research.csiro.au/aus4innovation/foresight/>

<sup>6</sup> World Bank. (2022). World Development Indicators database. Retrieved from <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=VN>

<sup>7</sup> IMF. (2021). Vietnam: Successfully Navigating the Pandemic. Retrieved from <https://www.imf.org/en/News/Articles/2021/03/09/na031021-vietnam-successfully-navigating-the-pandemic>

<sup>8</sup> Wikipedia. (2022). Politics of Vietnam. Retrieved from [https://en.wikipedia.org/wiki/Politics\\_of\\_Vietnam#cite\\_note-1](https://en.wikipedia.org/wiki/Politics_of_Vietnam#cite_note-1)

legislative, and judiciary is weak. In addition, there is a far-reaching overlap between the CPV and the government, extending to the lower levels of the political system.<sup>9</sup>

## Legal Environment

### Freedom of the press

Freedom of the press is proclaimed in Article 19 of Vietnam's Constitution; however, this is accompanied by articles that allow for the imprisonment of any news and information provider who proves troublesome to the government. Precisely, articles 109, 117, and 331 of the penal code specify that anyone found guilty of "activities aimed at overthrowing the government", "anti-state propaganda", or "abusing the rights to freedom and democracy" can be sentenced to up to 20 years in prison.<sup>10</sup> In addition, Press Law No. 103/2016/QH13 governs the press, including citizens' rights to freedom of press and freedom of speech in the press and the rights and obligations of agencies, organisations, and individuals involved in the media industry.

In practice, most news and media services are controlled by the state or have to follow the state's orders. Independent bloggers and journalists are the only sources of freely reported news and information in a country; however, they are also strictly monitored, and many are put in jail. Facebook, Youtube, and Zalo (a Vietnamese messaging app) are the most popular online platforms and currently serve as major tools for circulating news and information.<sup>11</sup>

### Access to information law

The law on access to information was issued in 2016 and enacted in July 2018. This law is an important document detailing the people's right to information access and State agencies' information provision responsibilities. While Vietnam has made significant steps to build the legal framework for the right to information, there is still a long way to go towards effective implementation of the law at all levels and with all stakeholders. Most state agencies still do not state how information can be requested, many local government employees have not been trained to process information requests, and many citizens have not been made aware of their rights.<sup>12</sup>

### Privacy

Data privacy and security are mentioned in multiple government degrees and laws, including the IT Law 2006 ([67/2006/QH11](#)), Consumer Protection Law 2010 ([59/2010/QH12](#)), Civil Code 2015 ([91/2015/QH13](#)), Cyber Information Security Law 2015 ([86/2015/QH13](#)), and

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<sup>9</sup> The Political System in Vietnam. (2012). In *The Vietnamese Health Care System in Change: A Policy Network Analysis of a Southeast Asian Welfare Regime* (pp. 259-264). ISEAS–Yusof Ishak Institute.

<sup>10</sup> Reporter without borders. (2022). Vietnam country fact file. Retrieved from <https://rsf.org/en/country/vietnam>

<sup>11</sup> Reporter without borders. (2022). Vietnam country fact file. Retrieved from <https://rsf.org/en/country/vietnam>.

<sup>12</sup> Transparency International. (2020). Ensure the rights to information in Vietnam - one step of many. Retrieved from <https://www.transparency.org/en/blog/ensuring-the-right-to-information-in-vietnam-one-step-of-many>

Cybersecurity Law 2018 (24/2018/QH14).<sup>13</sup> However, Vietnam's legal regulations on personal data are still inadequate, inconsistent, and contradictory. Sanctions for violations are scattered in many legal documents, and they are currently at a deficient level and not deterrent enough.<sup>14</sup>

In particular, the Cybersecurity Law 2018 provoked many national and international debates on personal data privacy and information censorship. The law requires companies like Facebook and Google to physically store information about Vietnamese users in Vietnam. In addition, it allows the government to block access to a broad range of content that could be defined as allegedly dangerous to national security. A draft decree to clarify the law's implementation was still under consideration as of November 2020.

Following that, a decree on personal data protection has been put forward for the drafting process, but it is not finished and was at Version 2 as of February 2021. It is expected to provide a robust set of rules regulating specific rights of data subjects, cross-border transfers of data, and the processing of sensitive personal data. Non-compliance may subject stakeholders to a temporary suspension of operation and/or revocation of permission for cross-border data transfer, in addition to monetary fines. The governing scope of the decree encompasses local and foreign companies (onshore and offshore) involved in the processing of personal data.

In 2021, the government further limited internet freedom by launching a national code of conduct for people using social media<sup>15</sup> and revising a decree to add a provision that would restrict live streaming.<sup>16</sup>

Recently, a newly promulgated decree on personal data protection was issued on 1 July 2023, representing a significant step towards enhancing data protection in Vietnam. The decree is, however, relatively wide-ranging and contains some ambiguous clauses. Moreover, certain provisions within the legislation may prove to be expensive and time-consuming for firms.<sup>17</sup>

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<sup>13</sup> Amcham Vietnam. (2019). Data protection in Vietnam: overview. Retrieved from <https://www.amchamvietnam.com/wp-content/uploads/2019/05/Data-Protection-in-Vietnam-Overview-April-2019.pdf>

<sup>14</sup> Bach Thi Nha Nam. (2002). Finalise the legislation on personal data protection. Vietnam legislation research journal. 05 (453), 03/2022. Retrieved from <http://lapphap.vn/Pages/TinTuc/211048/Hoan-thien-phap-luat-ve-bao-ve-du-lieu-ca-nhan.html>

<sup>15</sup>

<https://thuvienphapluat.vn/van-ban/Cong-nghe-thong-tin/Quy-dinh-874-QD-BTTTT-2021-Bo-Quy-tac-ung-xu-tren-mang-xa-hoi-478154.aspx>

<sup>16</sup>

<https://thuvienphapluat.vn/tintuc/vn/thoi-su-phap-luat/chinh-sach-moi/36497/muon-livestream-facebook-youtub-e-phai-thong-bao-thong-tin-lien-he-voi-bo-tt-tt-de-xuat>

<sup>17</sup> Mark Barnes. (2023). Vietnam's Personal Data Protection Decree: A Quick Guide. Retrieved from <https://www.vietnam-briefing.com/news/vietnams-personal-data-protection-decree-a-quick-guide.html>

## Censorship and surveillance

Under the authoritarian political system, freedom of assembly, association, expression, press and religion, as well as civil society activism, is tightly restricted and controlled by the party despite legislation recognising civil and political rights in the Constitution.<sup>18</sup> Certain contents and topics that are unfavourable to the party or related to curtailing political opposition, corruption, and human rights issues are censored in various ways. In 2023, Vietnam ranked among the lowest globally at 178th out of 180 countries in the Press Freedom Index.<sup>19</sup> The country was also classified by Freedom House as “not free” in terms of the Internet with significant obstacles to access, limited content, and significant violations of user rights.<sup>20</sup>

## Reported Cases of Internet Censorship

*(No update from 2022 report)*

Citizens enjoy more freedom in online discussions, and blogging and social media have become alternative sources of information and opinions to official public media. Bloggers, activists, and social media users have written about controversial subjects in Vietnam, such as human rights, democracy, religions, political figures, the communist party, and the state. However, they became subject to strict censorship and surveillance by authorities, especially high-profile figures with many followers and readers.<sup>21</sup>

Multiple websites critical of the government are often inaccessible from within Vietnam, namely Dân Luận,<sup>22</sup> Luật Khoa,<sup>23</sup> The Vietnamese,<sup>24</sup> Việt Nam Thời báo,<sup>25</sup> and Dân Làm Báo.<sup>26</sup> Certain international websites have also been reported to have unstable and unpredictable access, such as Human Rights Watch (HRW), the Vietnamese editions of Radio Free Asia (RFA), and the British Broadcasting Corporation (BBC).<sup>27</sup>

The government has implemented measures to force global technology firms to comply with government’s requests on censorship, such as taking Facebook’s local servers offline in 2020.<sup>28</sup> According to the Ministry of Public Security, in 2021, they requested Facebook and Google to arrange 24/7 permanent staff to review content; they removed 621 accounts, articles, and videos with illegal content and prevented access to 4,214 web servers that post

<sup>18</sup> Freedom house. (2022). Vietnam country report. Retrieved from <https://freedomhouse.org/country/vietnam>

<sup>19</sup> Reporter without borders. (2022). Vietnam country fact file. Retrieved from <https://rsf.org/en/country/vietnam>

<sup>20</sup> Freedom house. (2021) Freedom on the net report - Vietnam country. Retrieved from <https://freedomhouse.org/country/vietnam/freedom-net/2021>

<sup>21</sup> Mai Duong.(2017). Blogging Three Ways in Vietnam's Political Blogosphere. Contemporary Southeast Asia (39:2 ed.)

<sup>22</sup> <https://www.danluan.org/>

<sup>23</sup> <https://www.luatkhoa.org/>

<sup>24</sup> <https://www.thevietnamese.org/>

<sup>25</sup> <https://vietnamthoibao.org/>

<sup>26</sup> <https://danlambaovn.blogspot.com/>

<sup>27</sup> Freedom house. (2021) Freedom on the net report - Vietnam country. Retrieved from <https://freedomhouse.org/country/vietnam/freedom-net/2021>

<sup>28</sup> Reuter. (2020). Vietnam threatens to shut down Facebook over censorship requests - source. Retrieved from <https://www.reuters.com/article/us-vietnam-facebook-shutdown-exclusive-idUKKBN27Z1MP>

harmful and toxic information from foreign countries.<sup>29</sup> Another report from the Ministry of Information and Communication (MIC) states that in 2021, the MIC required Internet Service Providers to censor 3,000 websites regularly, preventing 2,000 websites and posts. The ministry also requires cross-border service providers (Facebook, Google, and Apple) to remove harmful and toxic content. Specifically, Facebook has blocked or removed more than 3,377 posts; Google has removed 13,141 videos from YouTube; and Tiktok has blocked or removed 1,180 videos.<sup>30</sup>

Worse, many journalists and bloggers have been arrested, assaulted, and given criminal convictions.<sup>31</sup> Notable cases include Pham Thi Doan Trang,<sup>32,33</sup> Nguyen Quoc Duc Vuong,<sup>34</sup> Nguyen Ngoc Nhu Quynh<sup>35</sup>, and Tran Thi Nga,<sup>36</sup> among 200 people imprisoned.<sup>37</sup>

## Network Landscape

In 2023, Vietnam's internet penetration rate stood at 79.1% of the total population with 77.93 million internet users. There was an increase in internet users by 5.3 million users from 2022 to 2023. Vietnamese spend on average 6 hours and 23 minutes daily on the internet on all devices, and 94.5% of users access the internet via their mobile phones. In addition, there were 161.6 million cellular mobile connections in Vietnam at the start of 2023.<sup>38</sup>

In terms of fixed broadband internet service providers, three leading companies, including VNPT (a state-owned enterprise), Viettel (a military-owned enterprise), and FPT (a private-owned enterprise), cover 92% of the market share.<sup>39</sup> In terms of mobile service,

<sup>29</sup> National army news. (2021). The Ministry of Public Security removed and blocked thousands of websites with bad and malicious content. Retrieved from

<https://www.qdnd.vn/quoc-phong-an-ninh/tin-tuc/bo-cong-an-go-bo-ngan-chan-hang-nghin-trang-web-co-noi-dung-xau-doc-675020>

<sup>30</sup> MIC. (2022). The Ministry of Information and Communications is determined to prevent and handle malicious information on social networks. Retrieved from

[https://mic.gov.vn/mic\\_2020/Pages/TinTuc/152518/Bo-TT-TT-kien-quyet-ngan-chan--xu-ly-cac-thong-tin-xau-doc-tren-mang-xa-hoi.html](https://mic.gov.vn/mic_2020/Pages/TinTuc/152518/Bo-TT-TT-kien-quyet-ngan-chan--xu-ly-cac-thong-tin-xau-doc-tren-mang-xa-hoi.html)

<sup>31</sup> Mai Duong.(2017). Blogging Three Ways in Vietnam's Political Blogosphere. Contemporary Southeast Asia (39:2 ed.)

<sup>32</sup> The Washington Post. (2021). Vietnam jails its 'most famous activist' for nine years Retrieved from

[https://www.washingtonpost.com/world/asia\\_pacific/vietnam-press-freedom-pham-doan-trang/2021/12/14/8ed0f008-57e4-11ec-8396-5552bef55c3c\\_story.html](https://www.washingtonpost.com/world/asia_pacific/vietnam-press-freedom-pham-doan-trang/2021/12/14/8ed0f008-57e4-11ec-8396-5552bef55c3c_story.html)

<sup>33</sup> National army news. (2021). After Pham Thi Doan Trang's trial court. Retrieved from

<https://cand.com.vn/Chong-dien-bien-hoa-binh/lai-tung-hoa-mu-sau-phien-toa-xet-xu-pham-thi-doan-trang-i638333/>

<sup>34</sup> Reuter. (2020). Vietnam jails Facebook user for eight years over 'anti-state' posts. Retrieved from

<https://www.reuters.com/article/us-vietnam-security-trial-idUSKBN24814T>

<sup>35</sup> The New York times. (2016). Vietnam arrests Mother Mushroom, a top blogger, for criticizing government.

Retrieved from <https://www.nytimes.com/2016/10/12/world/asia/vietnam-arrest-blogger-mother-mushroom.html>

<sup>36</sup> CPJ.(2020). Freedom at a high cost for Vietnamese blogger Tran Thi Nga. Retrieved from

<https://cpj.org/2020/02/vietnam-blogger-jail-exile-tran-thi-nga/>

<sup>37</sup> Bass, Thomas. (2017). Censorship in Vietnam: Brave New World. University of Massachusetts Press. ISBN 978-1625342959.

<sup>38</sup> Data reportal. (2023). Digital 2023: Vietnam report. Retrieved from

<https://datareportal.com/reports/digital-2023-vietnam>

<sup>39</sup> Tienphong news. (2020). New trend in cable internet market. Retrieved from

<https://tienphong.vn/he-lo-ve-lan-gio-moi-tren-thi-truong-internet-cap-quang-post1276350.tpo>

Viettel, Mobiphone and Vinaphone are the three market leaders, providing services to 98.1% of the market.<sup>40</sup> August 2023 data from Ookla showed that the median download speed via cellular mobile connections stood at 48.29 Mbps, placing Vietnam in the 45th place out of 143 countries, while the median speed provided by fixed broadband internet connections was 93.66 Mbps, which ranked at 46 out of 182 countries.<sup>41</sup>

In terms of pricing, Vietnam has one of the cheapest Internet rates for both fixed and mobile internet. The average monthly package cost for broadband internet in Vietnam is \$10.99, ranking it 12th out of 219 countries.<sup>42</sup> The average price of 1GB of mobile data in Vietnam is \$0.61, ranking it 37th out of 223 countries.<sup>43</sup>

With 70 million users, social media is widely used in Vietnam. Facebook, YouTube, Zalo, Tiktok, and Instagram are the most popular social media platforms in Vietnam. In Vietnam, there are 66.2 million Facebook users, 63 million YouTube users, and 49.86 million TikTok users, forming a highly promising and dynamic market for advertising and e-commerce.<sup>44</sup> Vietnam's digital economy is projected to exceed US\$43 billion by 2025 as the country continues to pursue projects in e-government, internet of things, smart cities, financial technology, artificial intelligence, and so on.<sup>45</sup>

Over the last few years, the Vietnamese government has made great efforts to push the Industry 4.0 agenda forward.<sup>46</sup> The ongoing regulatory focus on digital transformation, including e-government, has helped the nation navigate the COVID-19 health crisis through its timely and evidence-based response and resulted in a significant rise in online public services.

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<sup>40</sup> Vietstock. (2020). Technology - Telecommunication industry report 2020. Retrieved from <https://finance.vietstock.vn/downloadedoc/7540>

<sup>41</sup> Ookla. (2023). Speedtest global index. Retrieved from <https://www.speedtest.net/global-index>

<sup>42</sup> Cable.co.uk. (2023). Global broadband pricing 2023. Retrieved from <https://www.cable.co.uk/broadband/pricing/worldwide-comparison/>

<sup>43</sup> Cable.co.uk. (2023). Worldwide Mobile Data 2023. Retrieved from <https://www.cable.co.uk/mobiles/worldwide-data-pricing/#pricing>

<sup>44</sup> Data reportal. (2023). Digital 2023: Vietnam report. Retrieved from <https://datareportal.com/reports/digital-2023-vietnam>

<sup>45</sup> World Bank. (2020). Digital Economy in Vietnam: Building the Foundations for Future Growth. Retrieved from

<https://blogs.worldbank.org/eastasiapacific/digital-economy-vietnam-building-foundations-future-growth>

<sup>46</sup> Vietnam Law and Legal forum. 2021. National Strategy for Industry 4.0 introduced. Retrieved from <https://vietnamlawmagazine.vn/national-strategy-for-industry-40-introduced-27590.html>

## Findings on Internet Censorship in Vietnam

All of the findings are based on data collected through OONI from 1 July 2022 to 30 June 2023.

### Blocking of Websites

Throughout the one-year period, 1.2 million measurements from 2,329 websites were tested on OONI. As of 30 June 2023, the current test list contained 1629 websites in the Global Test List and 439 websites in the Vietnam Test List. Based on the OONI measurements, the following terms are used in this report:

- **Measured or Measurement Counts:** Refers to the total number of measurements collected through the OONI Probe.
- **Blocked:** Refers to “Confirmed Blocked” in OONI measurements. Measurements from automatically confirmed blocked websites (e.g., a block page was served).
- **Likely Blocked:** Refers to “Anomaly” and “Failure” in OONI Measurement. Anomalies are measurements that show signs of potential blocking; however, false positives can occur). Failures refer to failed experiments in OONI testing, although they can sometimes be symptomatic of censorship (except in India).

The table below shows a summary of the testing results:

	Jul-Sep 2022	Oct-Dec 2022	Jan-Mar 2023	Apr-Jun 2023	Total
Measured	253,782	209,124	329,624	428,964	1,221,534
Blocked	0	0	15	408	422
Block rate	0.00%	0.00%	0.00%	0.10%	0.03%
Input	2,156	2,045	2,059	2,161	2,329
ASNs	6	7	13	12	20

*Table 1: Summary of OONI web connectivity measurements for Vietnam from 1 July 2022 to 30 June 2023*

These measurements were analysed using heuristics as mentioned in Annex IV. It was found that there were 172 confirmed blocked websites, of which 47 were confirmed by OONI and 125 were confirmed by heuristics. The full list of these confirmed blocked websites are mentioned in Annex I.

Category	Category description	OONI Probe Measurements	Number of blocked and likely blocked measurements	Percentage of blocked and likely blocked measurements
ALDR	Alcohol & Drugs	14,451	772	5.3%

Category	Category description	OONI Probe Measurements	Number of blocked and likely blocked measurements	Percentage of blocked and likely blocked measurements
ANON	Anonymization and circumvention tools	77,503	5,355	6.9%
COMM	E-commerce	9,636	573	5.9%
COMT	Communication Tools	79,628	2,596	3.3%
CTRL	Control content	9,286	106	1.1%
CULTR	Culture	44,039	3,243	7.4%
DATE	Online Dating	10,435	766	7.3%
ECON	Economics	14,149	1,101	7.8%
ENV	Environment	26,687	1,501	5.6%
FILE	File-sharing	29,247	1,956	6.7%
GAME	Gaming	12,459	638	5.1%
GMB	Gambling	16,605	4,734	28.5%
GOVT	Government	20,737	3,911	18.9%
GRP	Social Networking	117,986	5,972	5.1%
HACK	Hacking Tools	16,719	1,653	9.9%
HATE	Hate Speech	3,940	144	3.7%
HOST	Hosting and Blogging Platforms	68,272	3,707	5.4%
HUMR	Human Rights Issues	141,318	17,697	12.5%
IGO	Intergovernmental Organisations	6,093	68	1.1%
LGBT	LGBT	65,760	4,258	6.5%
MILX	Terrorism and Militants	1,893	28	1.5%
MISC	Miscellaneous content	1,395	7	0.5%
MMED	Media sharing	60,577	4,314	7.1%
NEWS	News Media	130,179	21,494	16.5%
POLR	Political Criticism	72,035	30,178	41.9%
PORN	Pornography	11,654	4,875	41.8%
PROV	Provocative Attire	8,824	1,703	19.3%
PUBH	Public Health	42,240	3,185	7.5%
REL	Religion	40,122	3,010	7.5%
SRCH	Search Engines	25,504	1,607	6.3%
XED	Sex Education	19,364	892	4.6%

*Table 2: Summary of OONI web connectivity measurements for Vietnam from 1 July 2022 to 30 June 2023 by category*



*Note: Blocked and likely blocked measurements include “Confirmed Blocked”, “Anomaly”, and “Failures” on OONI measurements.*

The findings below will highlight the blocking of websites by certain categories and events relevant to Vietnam.

The data in this period from OONI included 1.2 million measurements. Out of these, 2,329 websites were found to be confirmed blocked and likely confirmed blocked across 20 different networks. Among the inputs entered, the confirmed blocking was found with confirmation by six ISPs, anomaly measurement for 16 ISPs and failure measurements for 14 ISPs. Among the six network operators that blocked websites, Viettel Group appeared with the highest number of website blocks (385 times in confirmed blocking status), VNPT and MOBIFONE followed suit with 24 and 8 times, respectively. Regarding anomaly signs, Viettel Group was still in first place, followed by VNPT and The Corporation for Financing & Promoting Technology. Regarding failure connections, Viettel Group and VNPT are at the top, followed by MOBIFONE.

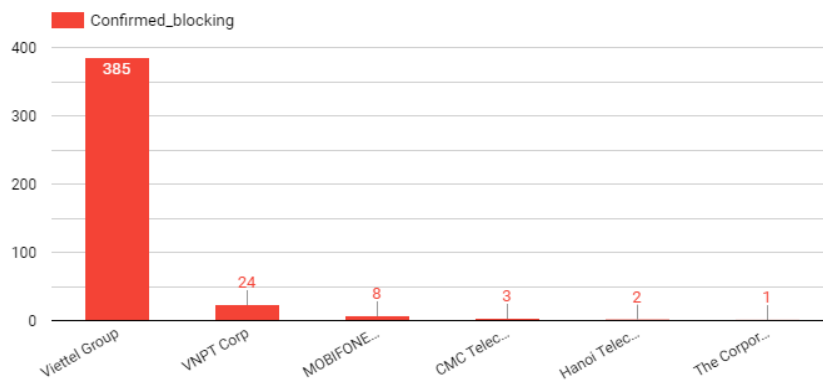


Figure 1: Number of times confirmed blocking through ISP found

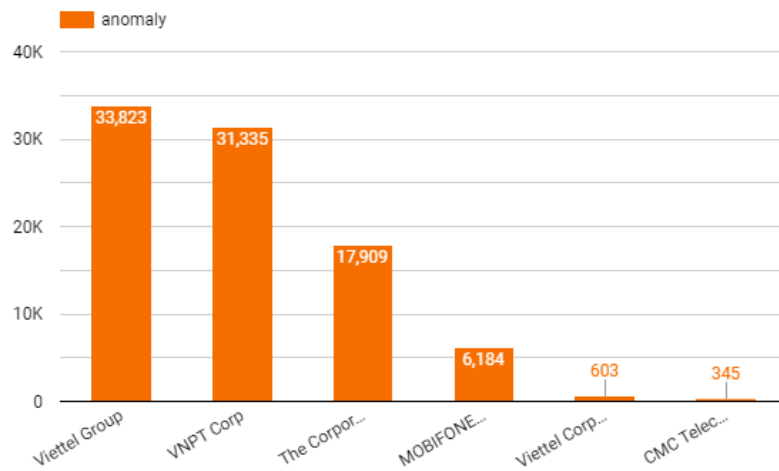


Figure 2: Number of times for anomaly signs through ISP found

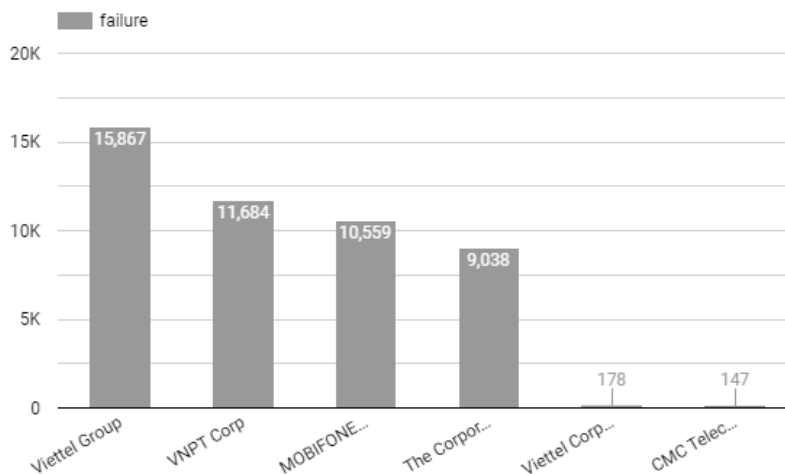


Figure 3: Number of times for failure signs through ISP found

Internet blocking occurred mainly in military operators, state-owned, or joint ventures with state-owned operators like Viettel, VNPT, and MOBIFONE.

Websites that are actively censored are broken down into four categories:

- Political Criticism
- News Media
- Human Rights
- Social Networking

**Table 1: Number of blocked pages by categories**

Categories	ISPs	Number of
------------	------	-----------

		<b>confirmed blocked pages</b>
Political Criticism	Viettel Group, MOBIFONE Corporation	46
News Media	Viettel Group, MOBIFONE Corporation, Viettel Corporation	30
Human Rights Issues	Viettel Group, MOBIFONE Corporation,	21
Social Networking	Viettel Group, MOBIFONE Corporation,	7

## Political Criticism

During the testing period, 46 pages on political criticism were blocked. Among the 39,758 measurements collected, the blocked and likely blocked times were 24,882, including 22,724 anomaly times, 2,006 failure times and 152 confirmed blocking times. Viettel Group and MOBIFONE were the two leading network operators who did the blocking, mainly using DNS blocking and HTTP body blocking of these websites. The blocking period was mostly found at the end of quarters I and II of 2023. Viettel and MOBIFONE often blocked all the pages with the most visits, with blocking and likely blocking percentages up to 62.6%.

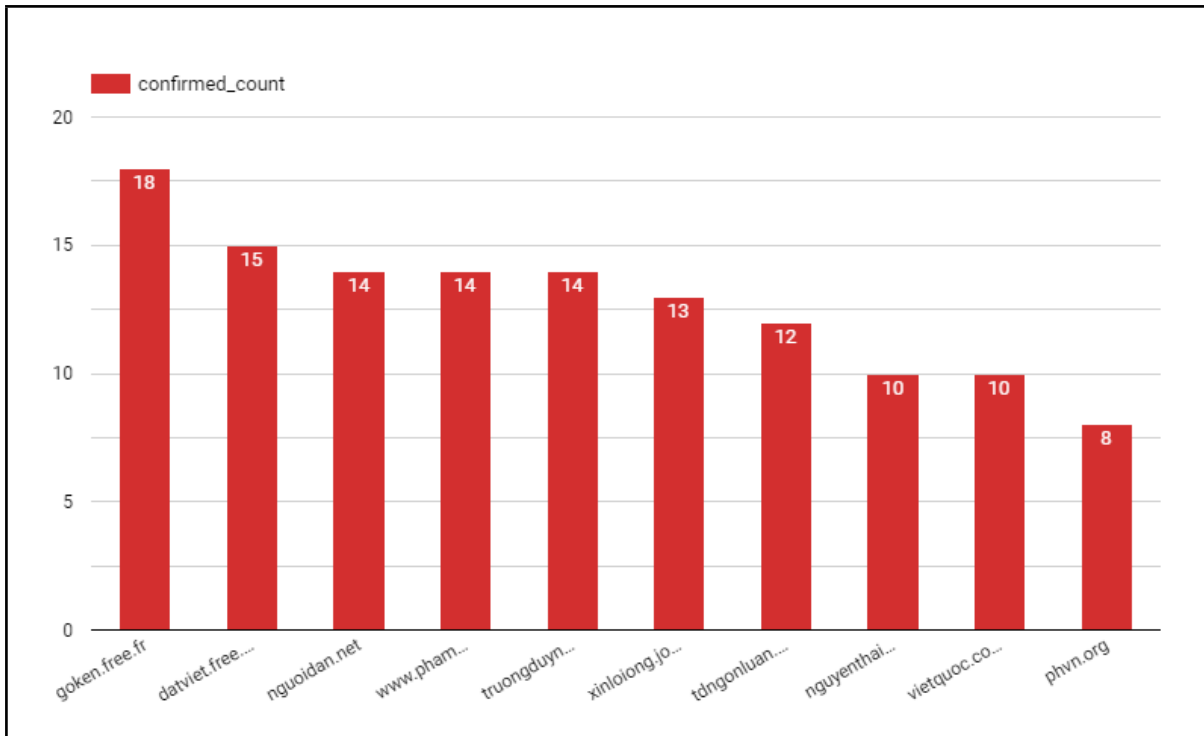


Figure 5: The number of confirmed counts on political criticism pages

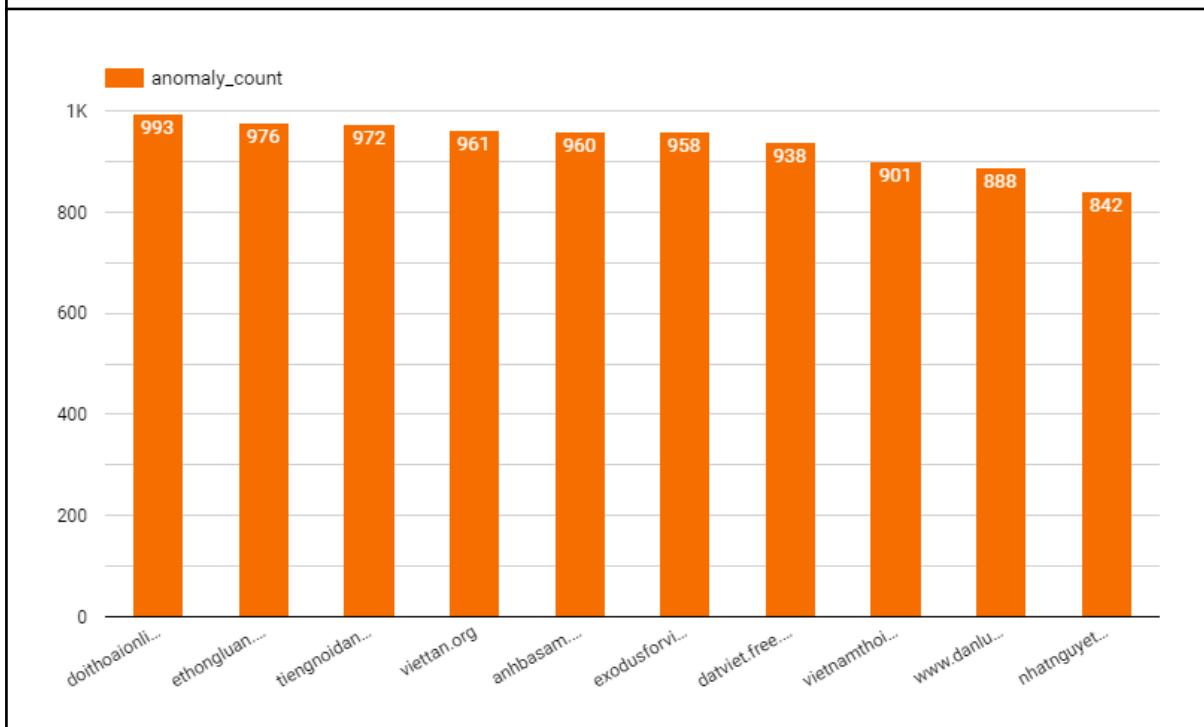


Figure 6: The number of anomaly counts on political criticism pages

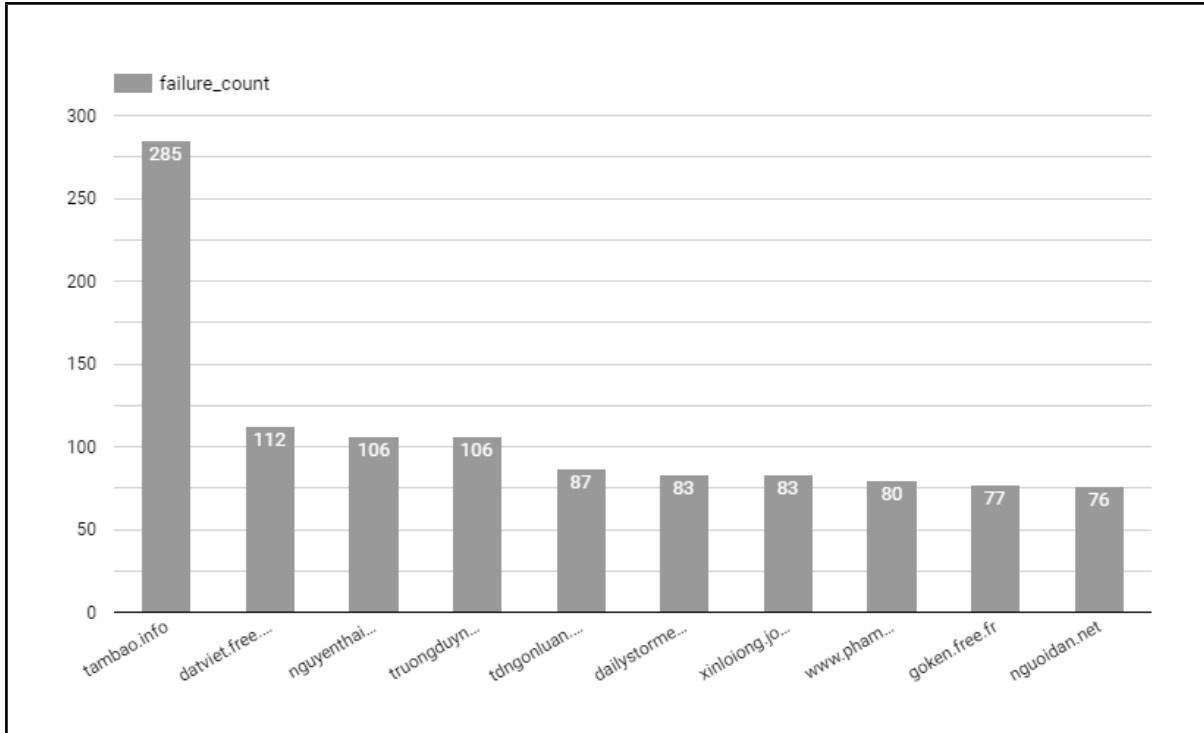


Figure 7: The number of failure counts on political criticism pages

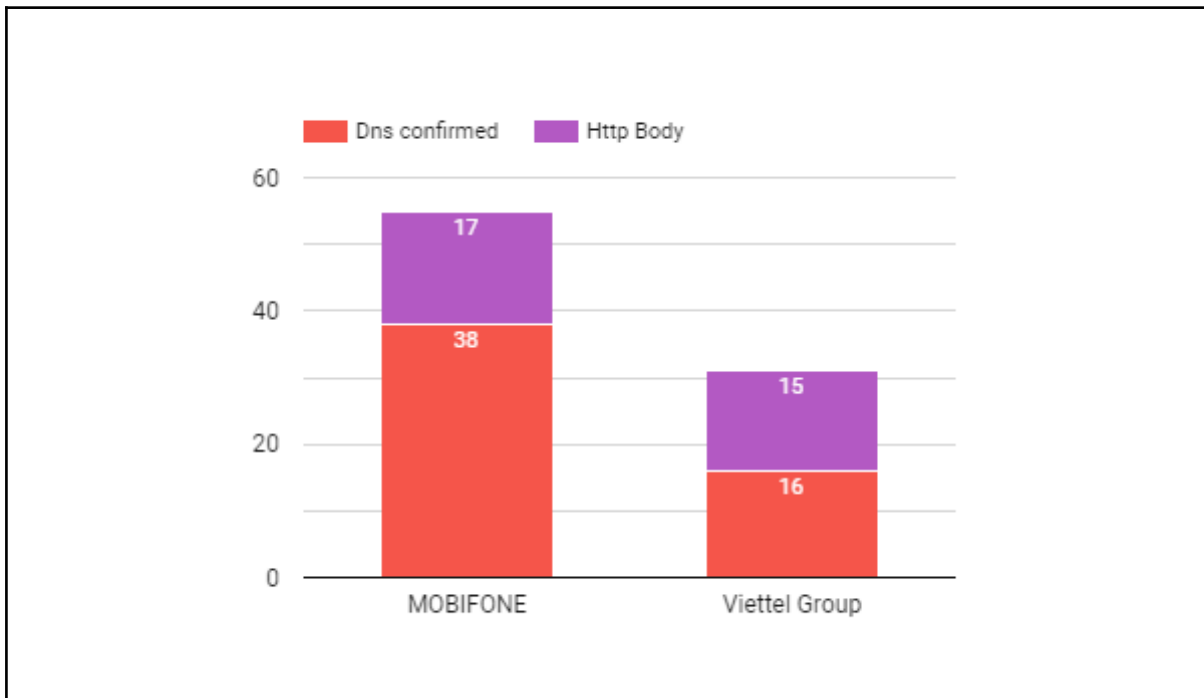


Figure 8: Internet blocking methods of providers in Vietnam on topic of political criticism

We selected the following three pages to for further analysis:

- Doan Trang (<http://www.phamdoantrang.com/>)<sup>47</sup>,

<sup>47</sup> Doan Trang page is a blog of a Vietnamese blogger, journalist, publisher, and democracy activist arrested by the Government.

- Goken (<http://goken.free.fr/>)<sup>48</sup>
- Dat Viet (<http://datviet.free.fr/>)<sup>49</sup>

Although only Viettel Group and MOBIFONE blocked political criticism sites, the number of anomaly signals and failures were very large. The Doan Trang page was completely blocked by the Viettel Group. In addition, the number of anomaly signals and failures in Viettel Group's network were quite high, followed by The Corporation for Financing & Promoting Technology, VNPT Corporation, and MOBIFONE.

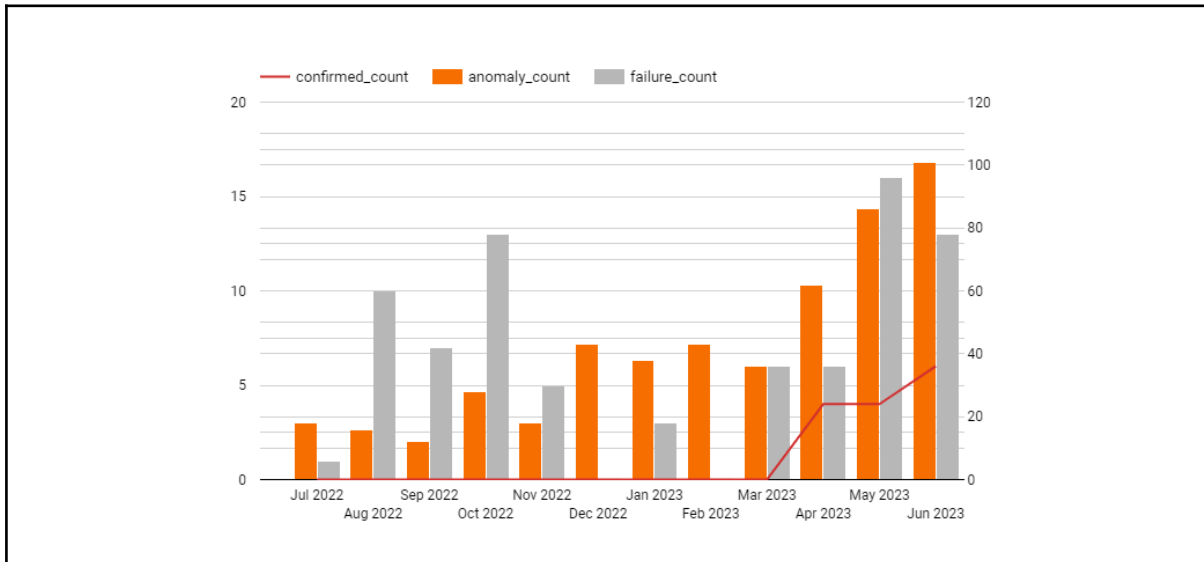


Figure 9: The number of confirmed counts, anomaly counts, and failure counts over time series

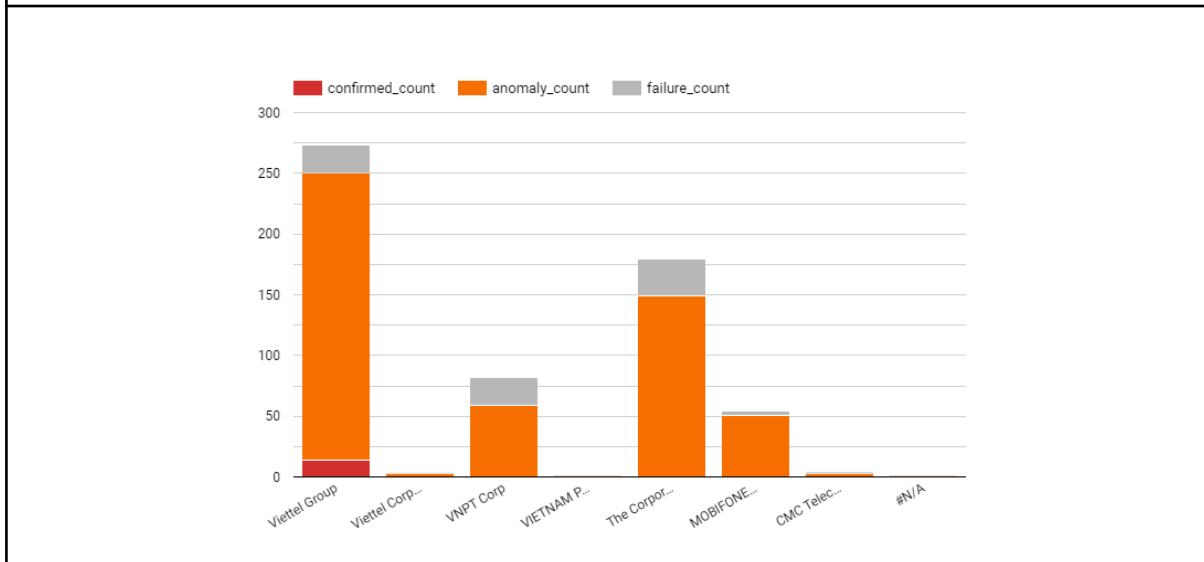


Figure 10: The number of confirmed counts, anomaly signals, and failures by ISP on Doan Trang page

<sup>48</sup> Goken is a website about religious beliefs but it does cover political issues in the country. Its domain is overseas.

<sup>49</sup> Dan Vietn is a political website that promotes multi-party pluralism. Its domain is overseas.

The ability to access Doan Trang's site in the third quarter of 2022 was the highest and VNPT opened many times. At the end of 2022 and the beginning of 2023, the percentage of accesses decreased again, thus showing a higher rate of blocking.

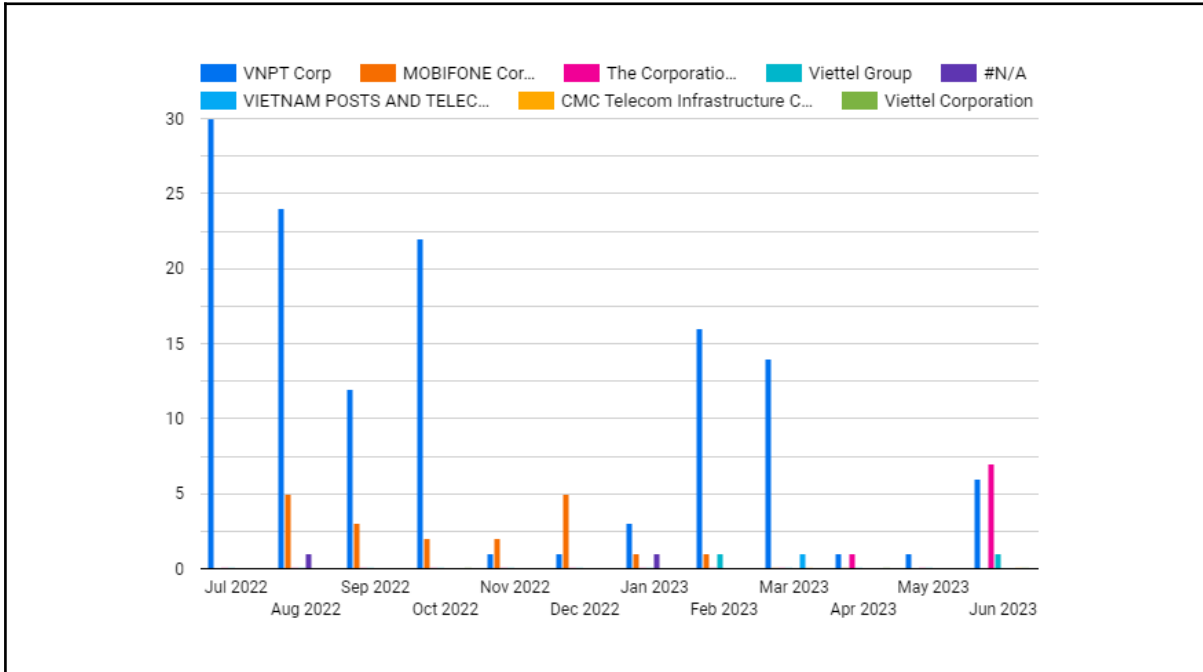


Figure 11: Dates for opening access for Doan Trang page by ISP and time series

For the two websites of Go Ken and Dat Viet, confirmed blocking cases only occurred on Viettel Group network. Meanwhile, anomalies were still happening a lot on other networks.

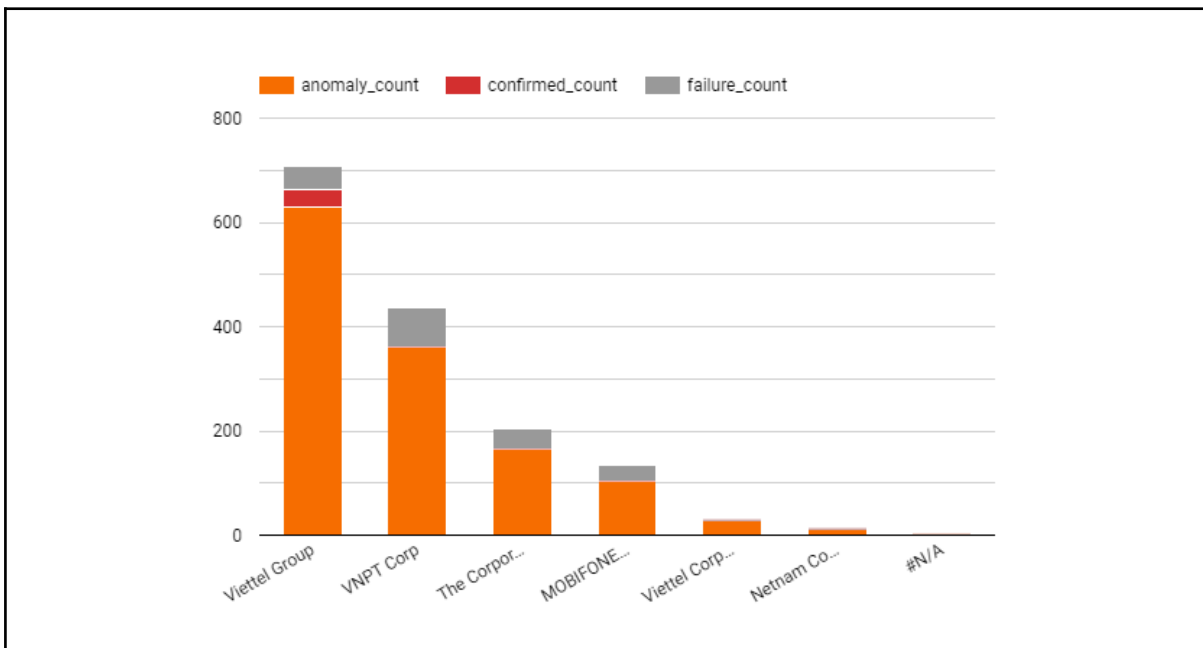


Figure 12: ISPs blocked Goken and Datviet pages

VNPT is a state-owned enterprise and Viettel is a military internet service provider. So, we can understand that these two ISPs are under the strict management and supervision of the Vietnamese party and government. These two networks are ranked the first and second place in the list of censorship on political criticism pages.

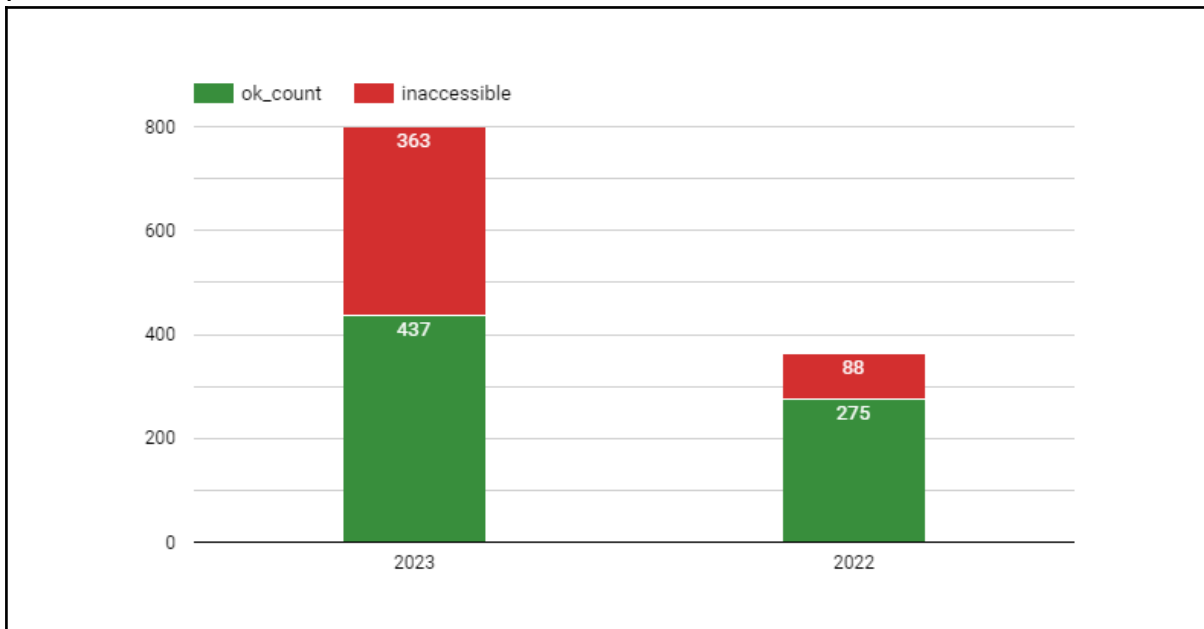


Figure 13: The number of accessible and inaccessible times on Goken page by year

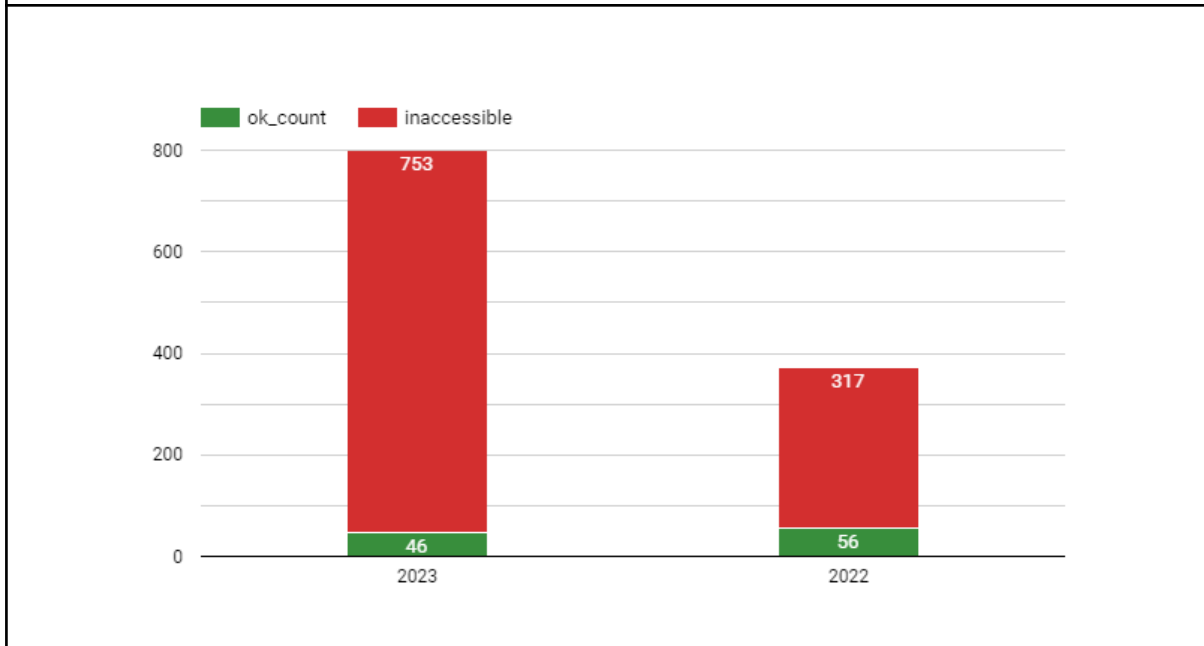


Figure 14: The number of accessible and inaccessible times on Datviet page by year

In 2023, the above two pages had twice as many measures or visits than that of 2022. Besides, if calculated according to the accessible ability rate, the number of accessible visits in 2023 was more limited than that of 2022. It means that the visits to these pages in the first half of 2023 were more tightly controlled than in the second half of 2022. When we compare



the censorship between the two sites, the Datviet website was more controlled. The nature of the two pages explains this: the Goken page is about religion and interspersed with political views, while the Datviet site promotes multi-party pluralism.

## News Media

Blocked news media sites include 30 input pages with 25,277 measurements. Of these, only 31.88% (8,059 measurements) had stable access. 68.12% appeared to be likely blocking including confirmed blocking, anomaly signals, and failure measurements.

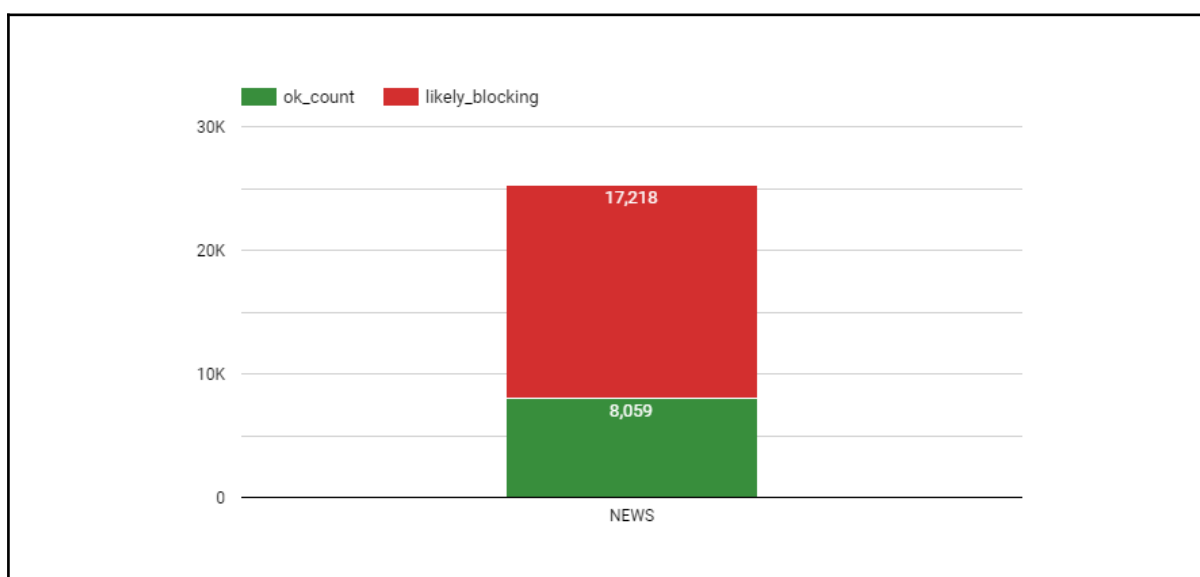


Figure 15: The number of inaccessible and accessible measurements on news media sites

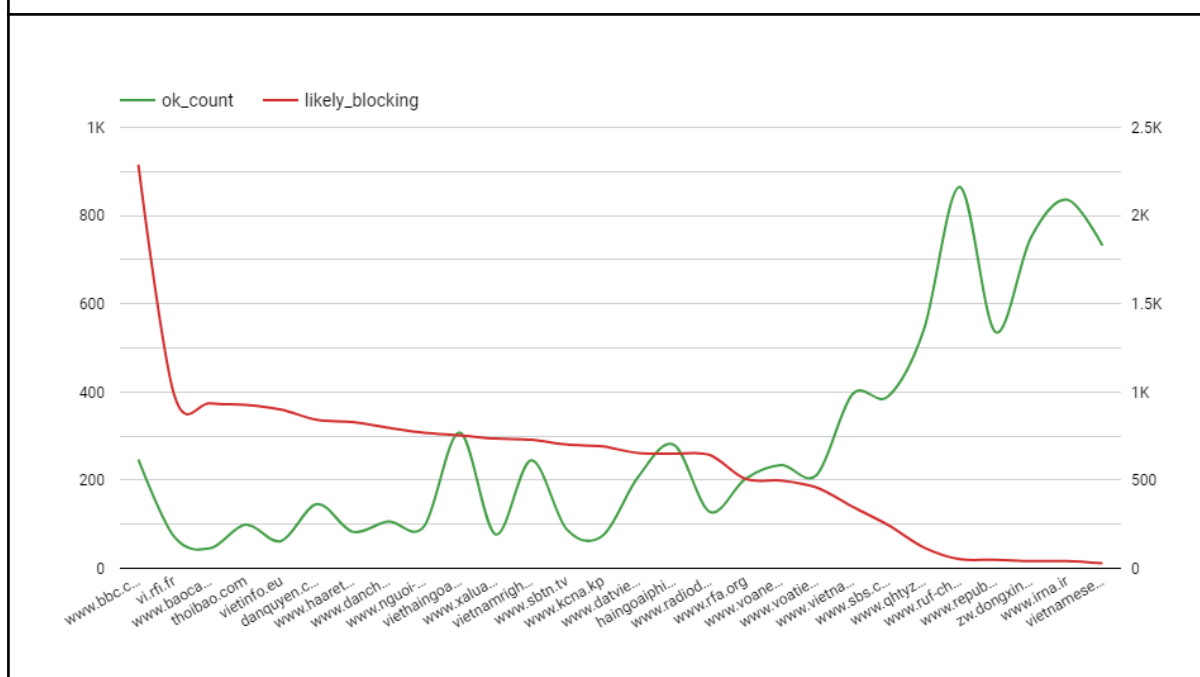


Figure 16: All pages with high inaccessible and low accessible times on news media sites

The top three censored pages with the highest number of inaccessible and the fewest accessible were:

- o [BBC \(www.bbc.com\)](http://www.bbc.com): with 2,839 likely blocking and 312 accessible counts.
- o [RF \(www.rfi.fr\)](http://www.rfi.fr) with 985 inaccessible and 72 accessible counts.
- o [Cali today \(www.baocalitoday.com\)](http://www.baocalitoday.com) with 936 inaccessible and 45 accessible counts.

The BBC was the leading site for press censorship in Vietnam. In 2022, RFA page ranked the second in being controlled; but in 2023, RFI took that position, followed by Baocalitoday. All of these media sites have overseas domain names.

The BBC news site was confirmed blocked based on heuristics. The network signals showed anomaly results in significant numbers. VNPT network, Viettel Group, and The Corporation for Financing & Promoting Technology were the three leading ISPs in blocking BBC.

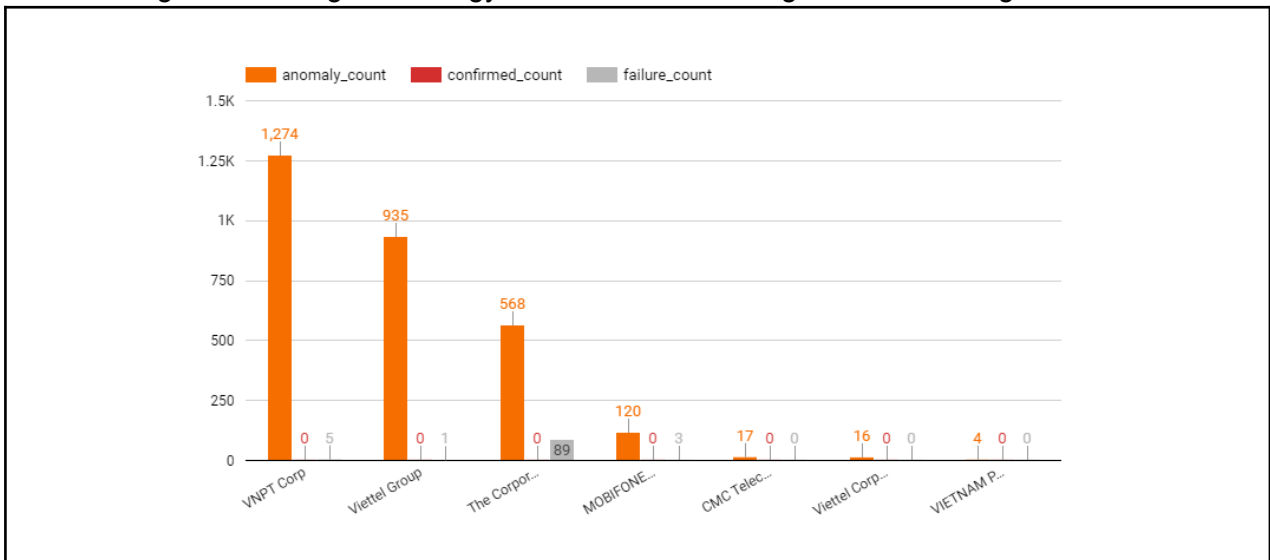


Figure 17: ISPs censorship on www.bbc.com

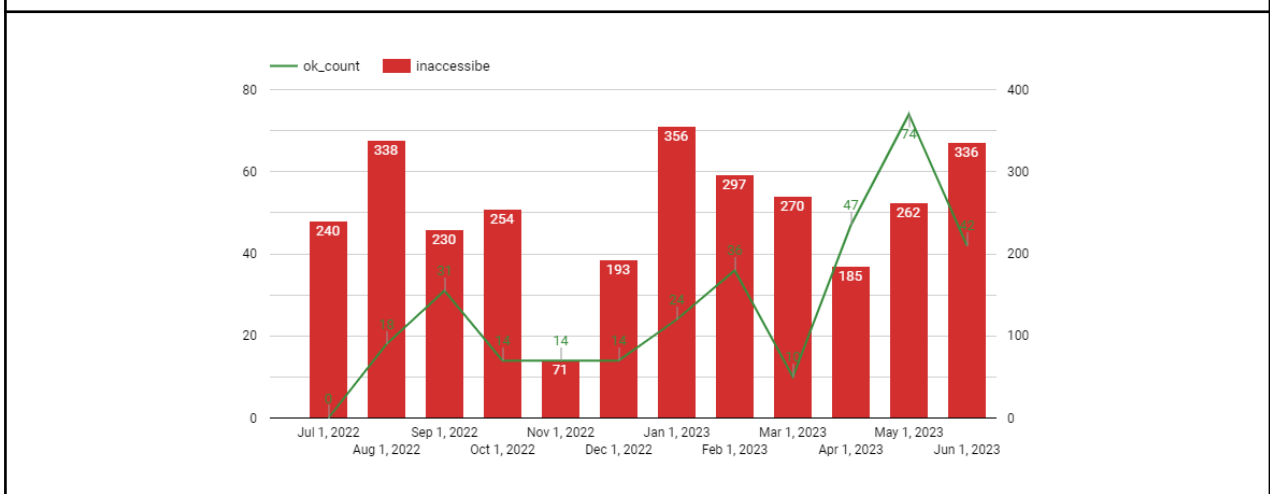


Figure 18: Accessible and inaccessible measurements by time series for www.bbc.com.

Besides the three above sites with highest censorship, there were a number of other newspapers having a high number of measurements; their accessibility was also quite small compared to inaccessibility.

	domain	inaccessible	ok_count	measurement_count ▾
1.	viethaingoi.net	754	308	1,062
2.	thoibao.com	927	99	1,026
3.	danquyen.com	842	146	988
4.	vietnamrightnow.com	729	245	974
5.	vietinfo.eu	900	62	962
6.	haingoaiphiedam.com	650	280	930
7.	www.ruf-ch.org	52	865	917
8.	www.haaretz.com	830	83	913
9.	www.danchimviet.info	797	106	903
10.	www.irna.ir	41	836	877
11.	www.nguoi-viet.com	768	95	863
12.	www.datviet.com	653	208	861
13.	zw.dongxingnet.com	41	751	792

1 - 24 / 24 < >

Figure 14: The number of other News Media pages except for the three highest censored sites

## Human Rights Issues

The total number of confirmed blocked pages on human rights was 20. Although the number of confirmed blockings was quite modest, the number of anomaly signals and failures were quite high. The censorship leaders were VNPT network and Viettel Group.

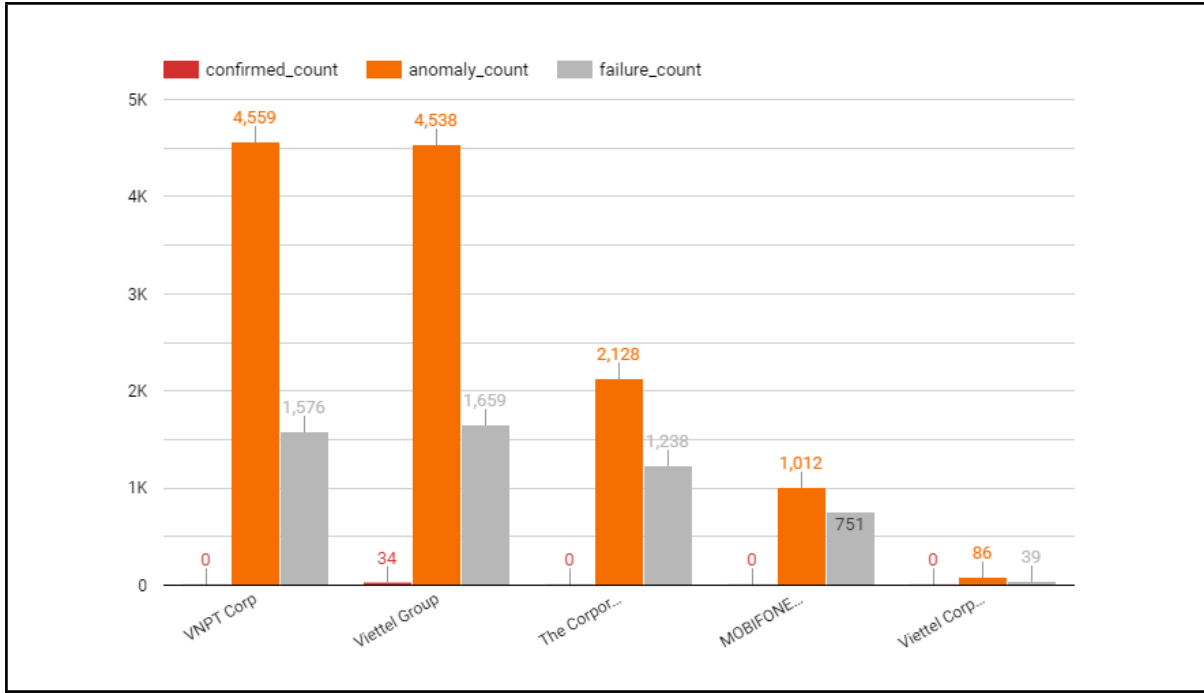


Figure 15: ISPs blocking on Human Rights Issues category

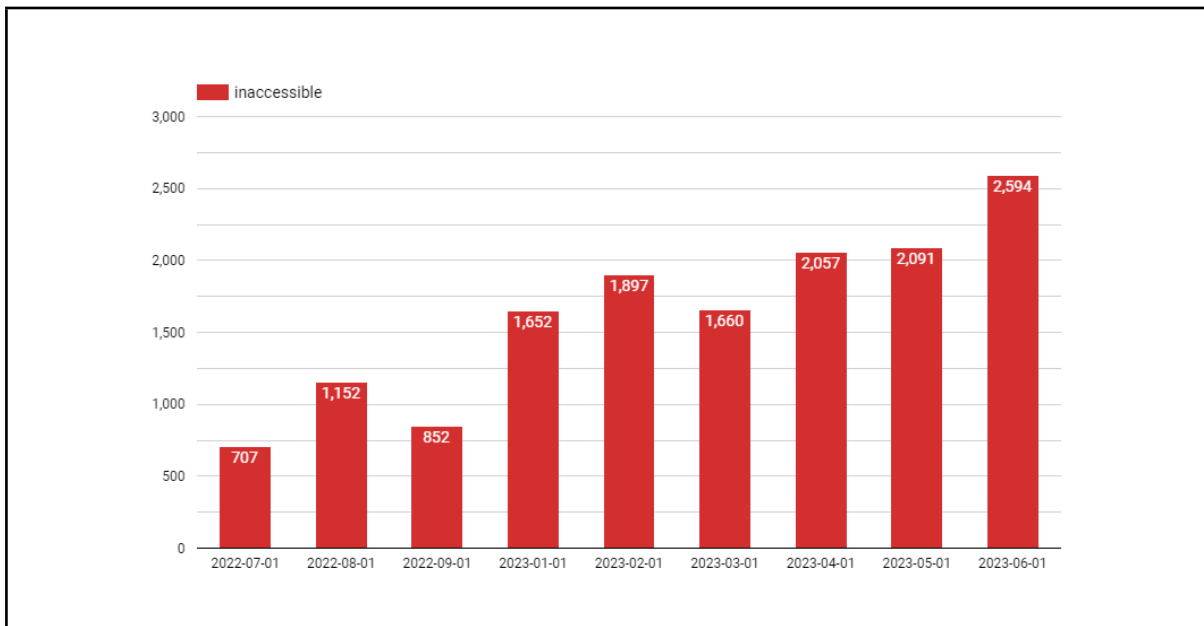


Figure 16: The dates on which Human Rights category was censored significantly

The rate of censorship inaccessibility to human rights sites was quite high with nearly 20 human rights sites inaccessible, which was up to more than 50%.

	domain	Percentage of inaccessibility ▾	inaccessible	measurement_count
1.	the88project.org	96.5	910	943
2.	www.change.org	93.93	897	955
3.	vnhrdmay11.org	93.52	996	1,065
4.	www.amnesty.org	93.42	1,856	1,991
5.	www.luatkhoa.org	91.66	769	839
6.	www.iaffe.org	91.33	927	1,015
7.	www.boxitvn.net	88.13	854	969
8.	vnwhr.net	86.66	903	1,042
9.	www.vietnamhumanrights.net	85.66	633	739
10.	anhduong.net	82.23	1,078	1,311
11.	vnhrmet.org	81.59	709	869
12.	mec.org.vn	80.09	889	1,110
13.	www.rfa.org	70.64	498	705
14.	www.bpsos.org	69.92	602	861
15.	www.vietnamhumanrightsdefenders....	64.81	466	719
16.	www.cidh.org	62.1	698	1,124
17.	www.religioustolerance.org	55.92	406	726

1 - 100 / 193 < >

Table 2. Inaccessibility percentage of pages in Human Rights Issues

In particular, on 1 January 2023, the possibility of not being able to access human rights sites increased significantly.

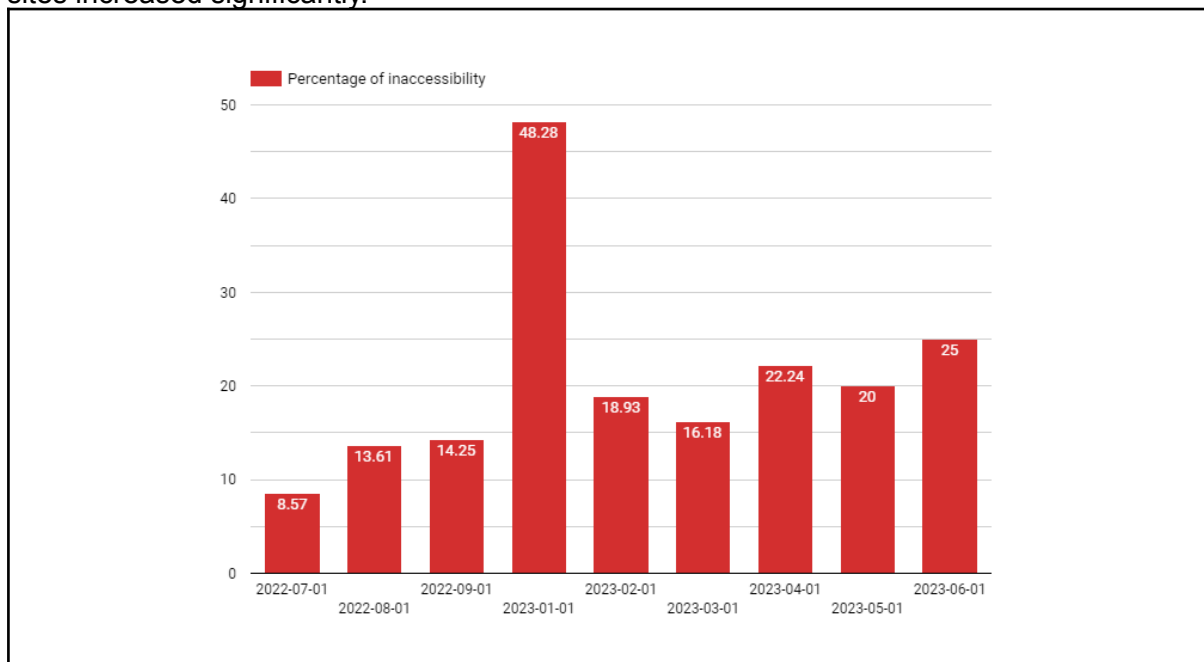


Figure 17: The inaccessibility percentage of Human Rights Issues Pages over time.

The88project site (<https://the88project.org/>) and Change.org site were the pages being censored the most. The following sections examine these sites in more detail.

### The 88 project

The88project (<https://the88project.org/>) provides a database of activists and information about arrest and harassment incidents. The88project was tested on Viettel networks, VNPT, The Corporation for Financing & Promoting Technology, MOBIFONE, CMC Telecom, Vietnam mobile and VNPT with 946 tests; it was accessible only 33 times or 3.49% of the time. Accessibility to the site was limited: Viettel Group only once, VNPT only 4 times, The Corporation for Financing & Promoting Technology only 7 times, and MOBIFONE 19 times while it had shown anomaly signals and failure through all network operators.

With regards to network operators, VNPT and Viettel used IP address blocks, while FPT used DNS level interference. VNPT and FPT took turns opening the internet port on the following days:

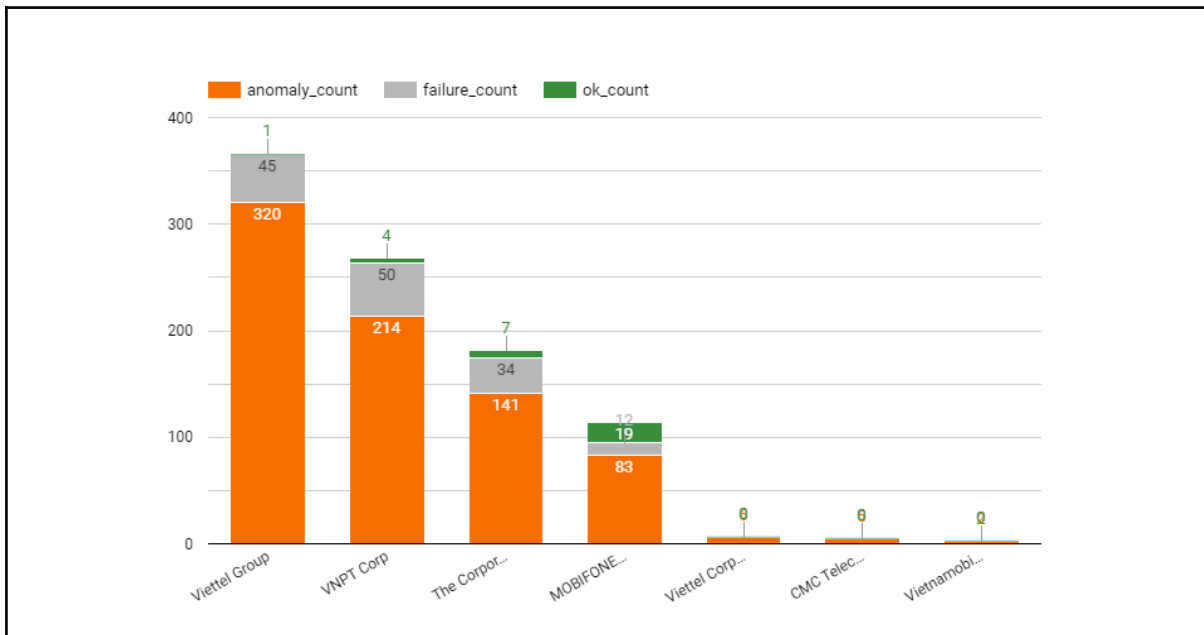


Figure 18: ISPs blocking on the 88 projects

There were only 4 internet providers who opened access (ok counts) on the following months:

Date	OK Counts	ISP Name
2022	2	VNPT Corp
August 2022	2	The Corporation for Financing & Promoting Technology
August 2022	1	MOBIFONE Corporation

September 2022	6	MOBIFONE Corporation
Jan /2023	5	MOBIFONE Corporation
April 2023	1	Viettel Group
April 2023	1	The Corporation for Financing & Promoting Technology
April 2023	1	VNPT Corp
May 2023	2	The Corporation for Financing & Promoting Technology

So, it can be said that in 2023, the88project was quite tightly controlled and was blocked by ISPs using DNS blocking and HTTP blocking .

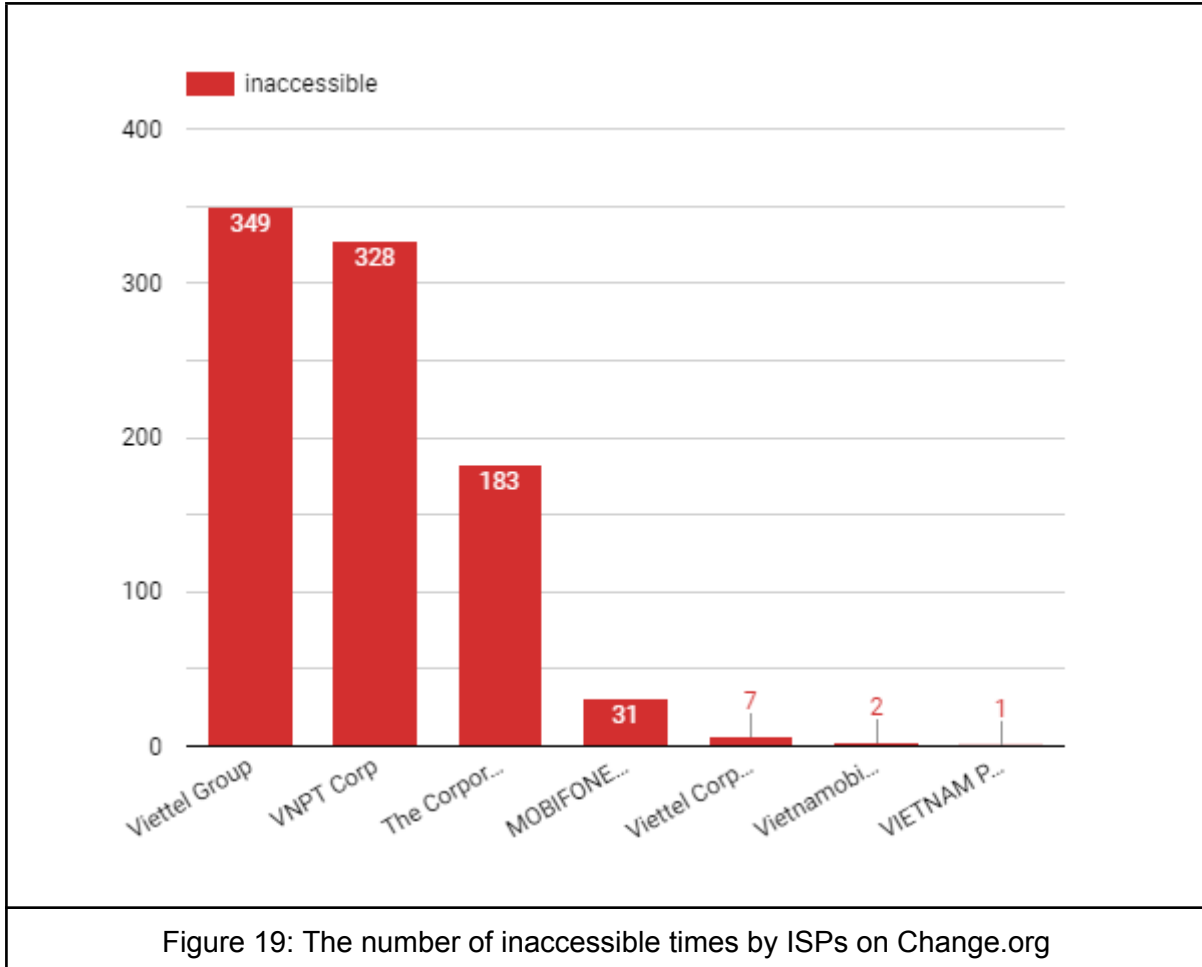
### Change.org

**Change.org** is a website that allows users to create and sign petitions to advance various social causes by raising awareness and influencing decision-makers. The site is a US-based for-profit company and claims to have nearly 500 million users as of December 2022. Petitions often focus on causes such as general justice, economic justice, criminal justice, human rights, education, environmental protection, animal rights, health, and sustainable food.<sup>50</sup>

The change.org website had only 955 tests, but 864 anomaly signals accounted for 90.1%. Stable hits only accounted for 6.07%.

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<sup>50</sup> Wikipedia. Retrieved at: <https://en.wikipedia.org/wiki/Change.org>



Viettel Group and VNPT were the main blockers. For Change.org, there were only confirmed blockings by heuristics, and the number of anomaly signals were significant.



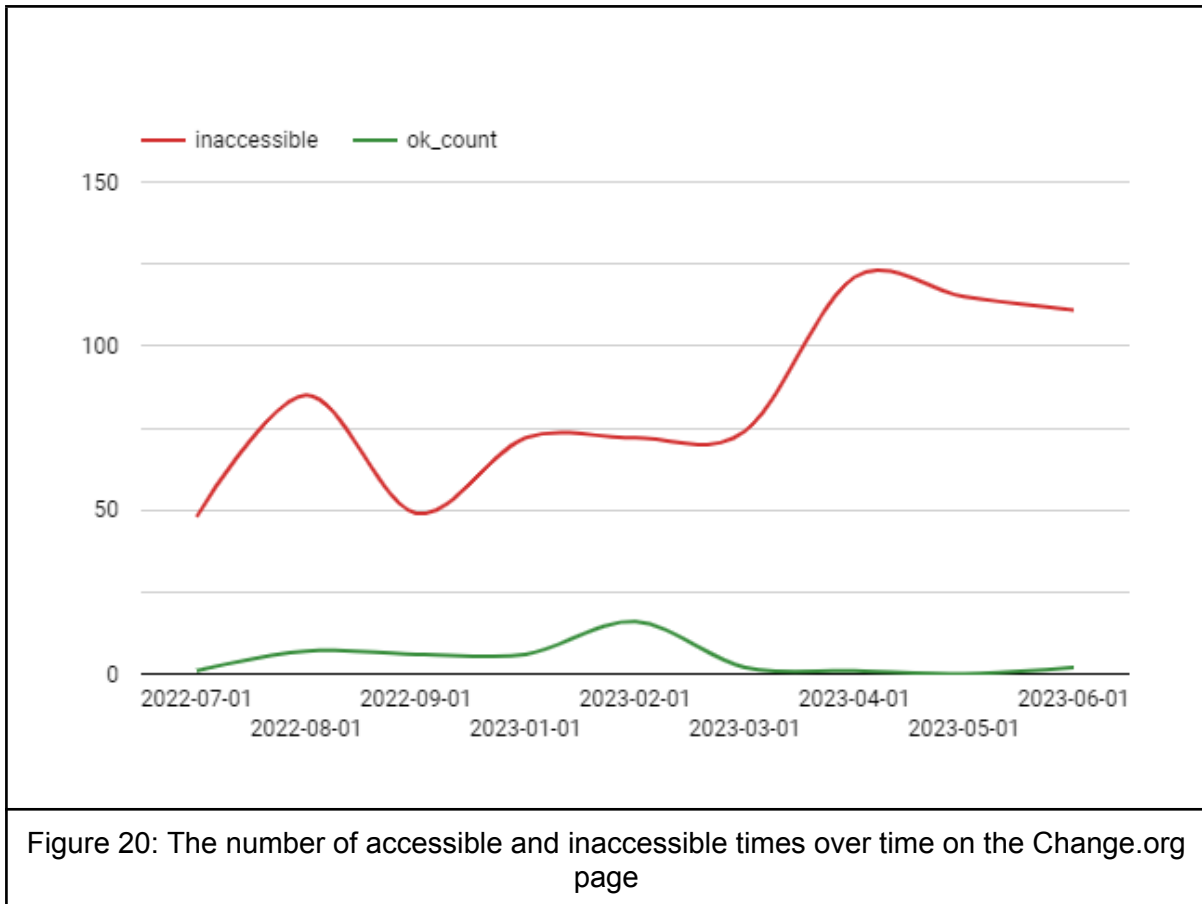


Figure 20: The number of accessible and inaccessible times over time on the Change.org page

The chart shows an increase in internet censorship by the operators over time while the number of stable internet access tends to decrease over time.

Change.org was blocked by middle boxes or its IP address given in the black list to hinder users' internet access to the website. The network operators with large numbers of censors were still Viettel Group, VNPT, and The Corporation for Financing & Promoting Technology.

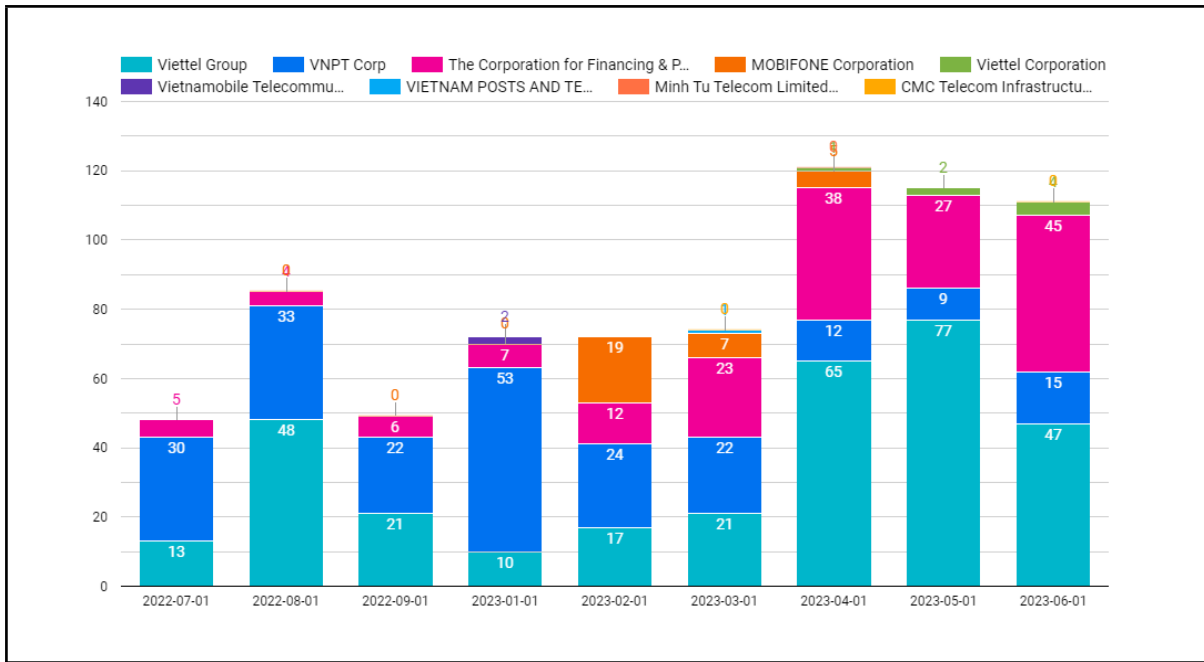


Figure 21: The number of ISPs and the number of inaccessible times over time on the change.org

## Blocking of Instant Messaging Apps

	Facebook Messenger	Signal	Telegram	WhatsApp
<b>Total Measurements</b>		10,083	12,675	12,687
<b>Percentage of blocked and likely blocked</b>		0.8%	0.3%	0.5%

Note: Failed measurements are discarded from this table

Instant messaging services were consistently accessible via web connectivity and mobile applications such as WhatsApp, Facebook Messenger, Telegram, and Signal. These appeared to be accessible on all tested networks during the testing period.

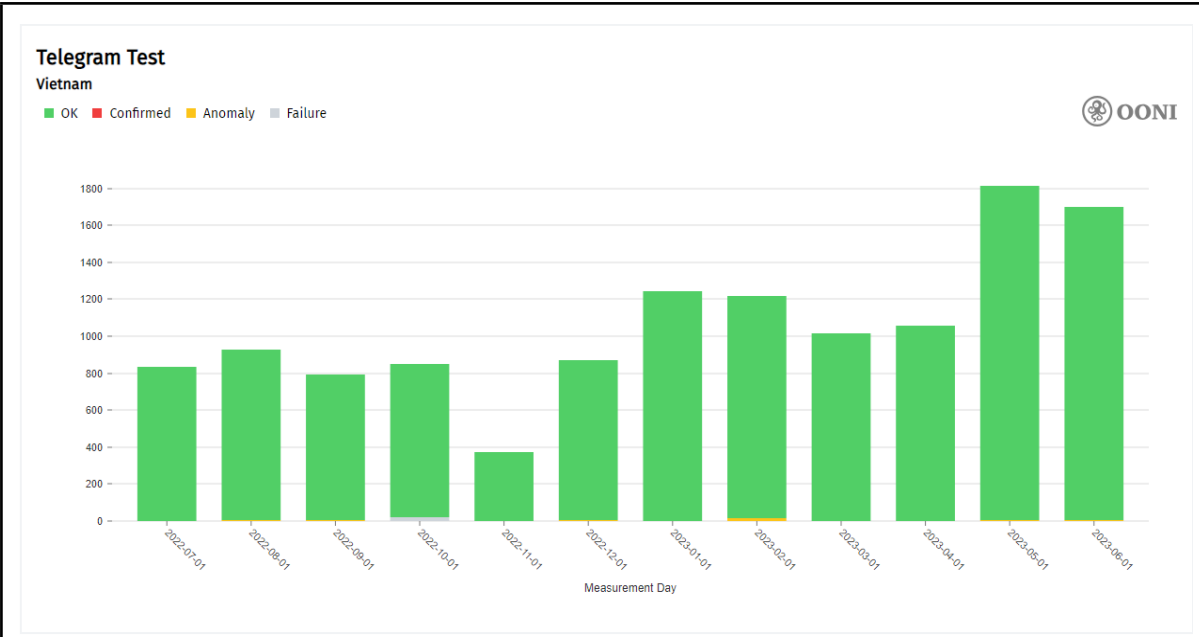


Figure 22: Telegram measured on OONI MAT tool

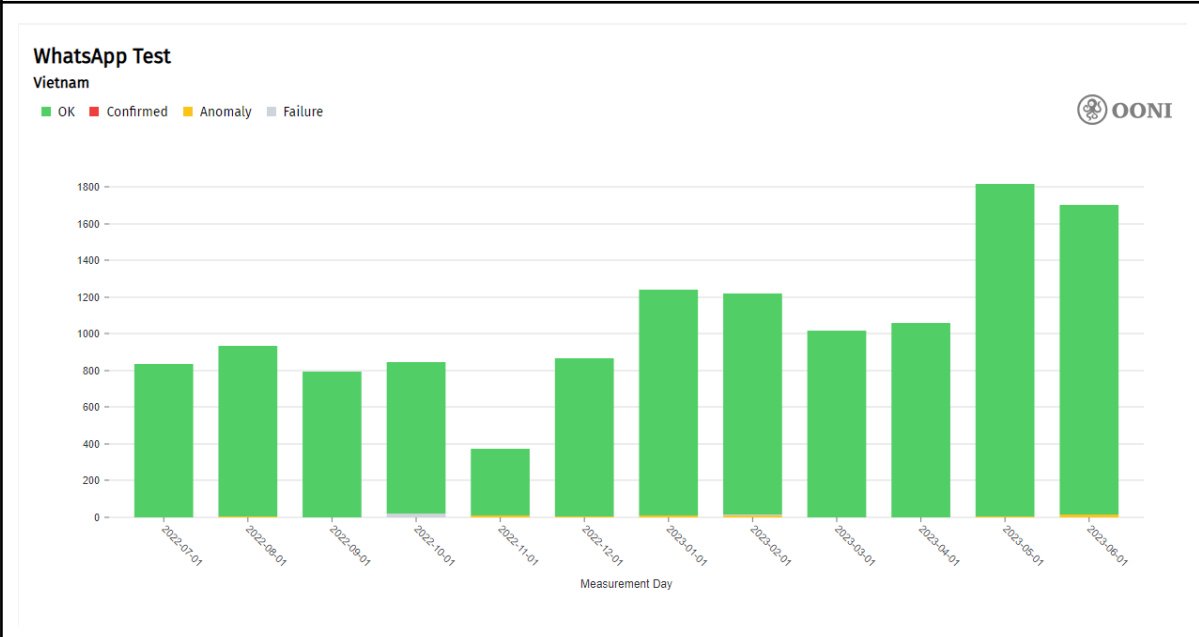


Figure 23: WhatsApp measured on OONI MAT tool

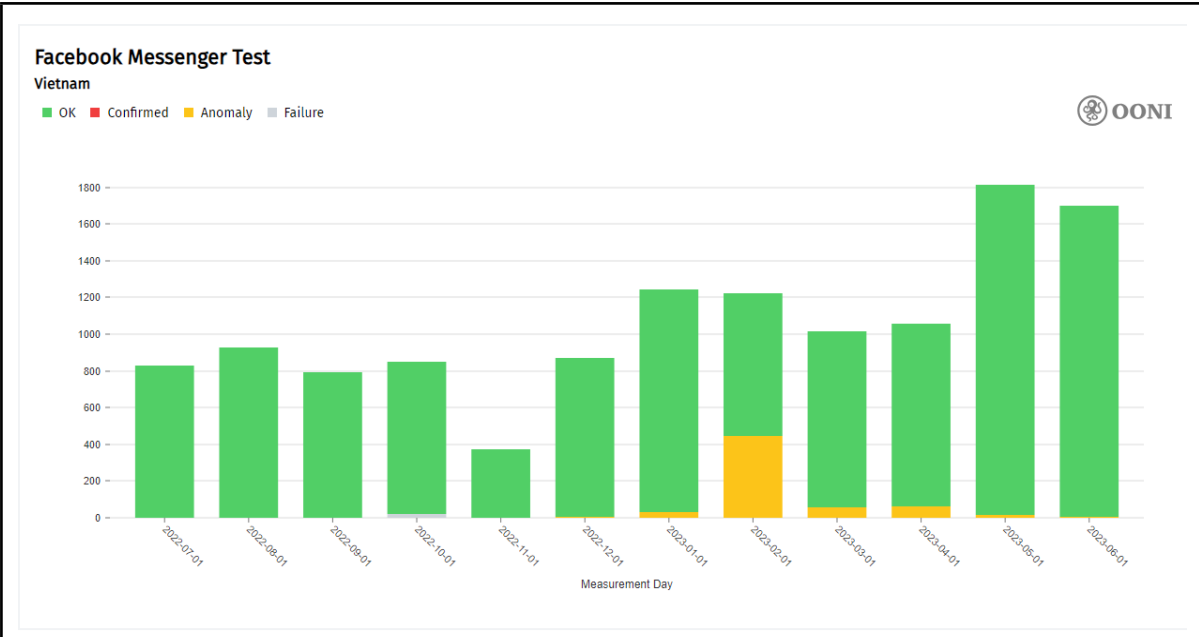


Figure 24: Facebook Messenger measured on OONI M AT tool

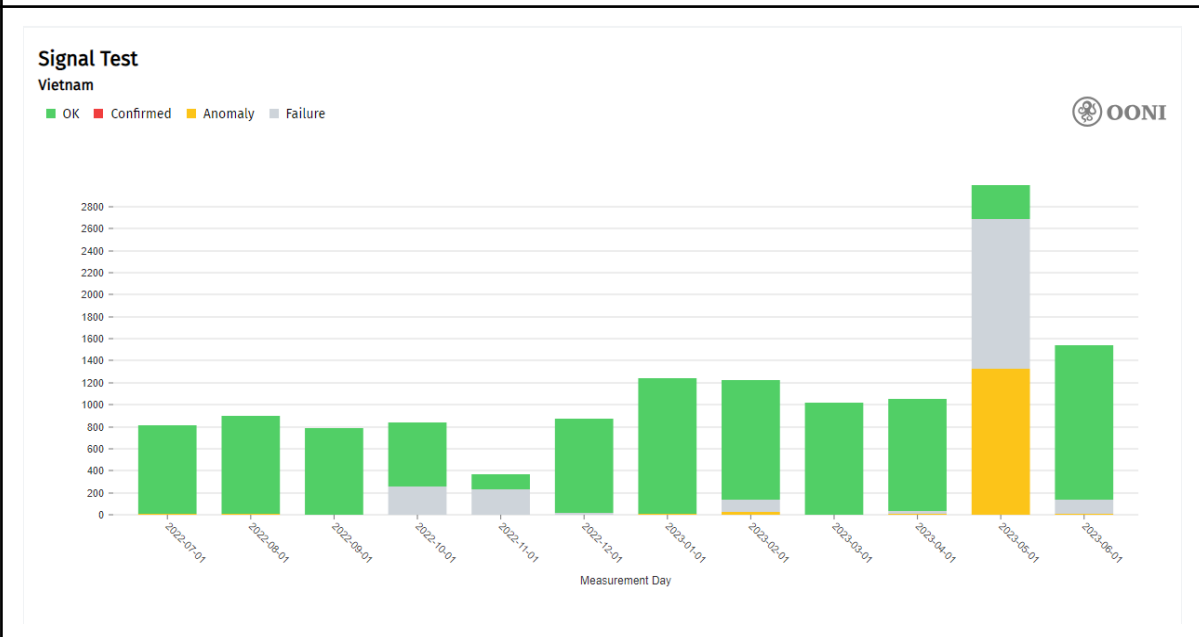


Figure 25: Signal measured on OONI Math tool

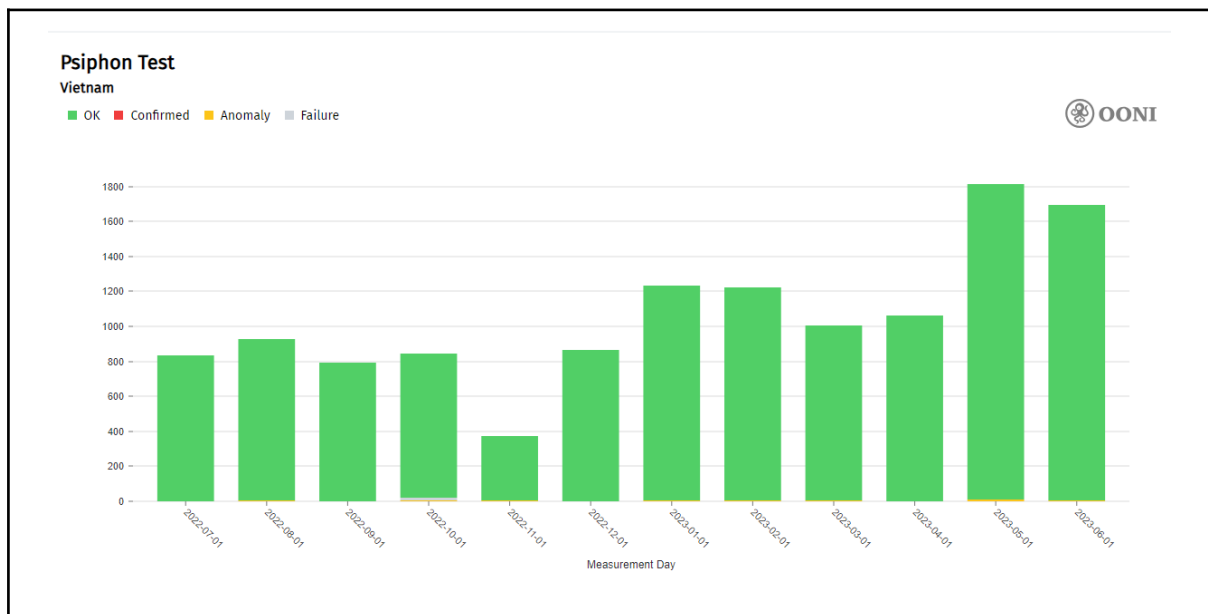
There were still some anomalous and failure signals, but that number was insignificant compared to the number that could be accessed. There was one unusual phenomenon on Facebook Messenger in February 2023, where the number of anomalies spiked more than usual. When checked, it was from the MOBIFONE network. The signal tests are more controlled than other ones. In particular, in May 2023, the number of anomaly signals and failure increased dramatically, although this is likely due to issues with the OONI Probe during this month as these were also shown in measurements in other countries.

## Blocking of Circumvention Tools

	Psiphon	Tor	Tor Snowflake	Vanilla Tor
Total Measurements		12,456	10,950	10,872
Percentage of blocked and likely blocked		9.1%	2.1%	0.0%

Note: Failed measurements are discarded from this table.

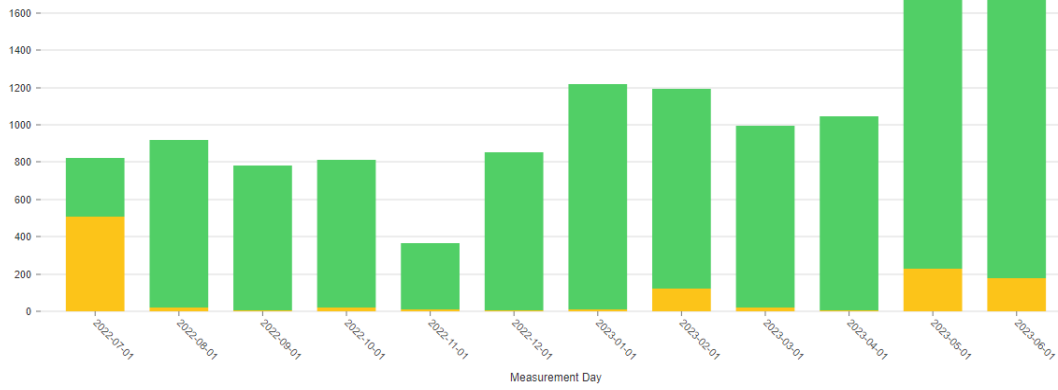
When looking at anonymization and circumvention tools, we found that in Vietnam, the [Psiphon](#) test is not censored while the [Tor](#) test has signs of censorship starting in July 2022 and several months of 2023 such as February, May, and June.



### Tor Test

Vietnam

OK Confirmed Anomaly Failure

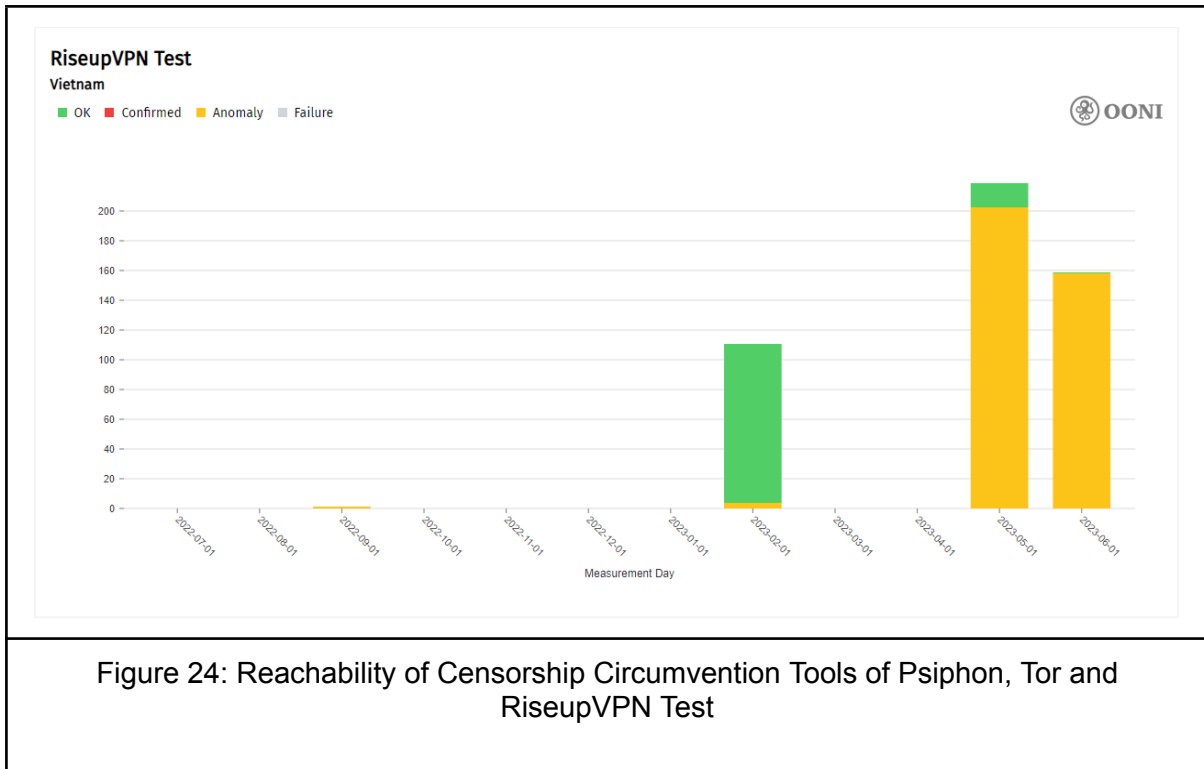


### Tor Snowflake Test

Vietnam

OK Confirmed Anomaly Failure





The RiseupVPN Test outstripped the anomaly signals in May and June 2023. The number of hits was below 20 times while the number of anomalies was in the hundreds.

## Acknowledgement of Limitations

- **Period of study**

This study's findings are limited to network measurements that were collected from 1 July 2022 to 30 June 2023 in order to examine the most recent censorship trends and events.
- **Vantage points**

Although the network measurements were collected from 20 vantage points in Vietnam, the OONI software was not run consistently across all networks.
- **Use of input/URL as unit of measurement of websites**

In general, URL (or in OONI's terms – input) and domain are interchangeable terms used to refer to a website. In the OONI test list, full URLs are input in the probe to be tested for censorship, similar to an URL starting with “https” or “http” in a browser. The censorship can involve tampering of DNS or HTTP or other types of censorship. Depending on the method, the blocking can either be at the URL or domain level. However, when analysing results on OONI, the reader needs to note that there are differences in the numbers with respect to the specific input or domain.

In the 2022 report, domain was used as a unit of measurement of a website so as to reduce duplicates when measuring the number of websites blocked. For this 2023 report, however, input is used instead as it may give more context as to why the web page is blocked. The findings would also be categorised more accurately according to the CitizenLab test lists, which are in the format of URL. To better understand the findings on the state of censorship, we used percentage of blocked or likely blocked instead of actual counts based on OONI test results.

- **Differences in numbers with OONI data**

The findings in this report have been further processed from OONI's data whereby more confirmed blockings were obtained and false ones eliminated through additional heuristics and manual verification by iMAP researchers based on country or local context. While these heuristics will eventually be added into OONI's fingerprints, OONI will only process them for future testing.

Additionally, iMAP researchers have categorised blocked websites that were not part of the CitizenLab test lists but were tested on OONI via custom test lists. Hence, the figures in this report may differ to results on the OONI Explorer.

- **Testing of instant messaging apps and circumvention tools**

The instant messaging apps and circumvention tools included in this report are limited to those tested on OONI. Therefore, they may not reflect the state of censorship of apps more commonly used in Vietnam.



## **Conclusion**

Multiple censorship events have been reported in Vietnam over the last decade. The objective of this study is to gain a better understanding of internet censorship events in Vietnam through the collection and analysis of network measurements. To this end, OONI software tests were run across the country with the aim of collecting and analysing network measurement data that could help examine whether sites, instant messaging apps, and censorship circumvention tools were blocked. Some of the tests that were run are designed to examine whether systems (“middle boxes”) that could be responsible for censorship, surveillance, and traffic manipulation were present in the tested networks.

Overall, the accessibility of 2,329 inputs (URLs) was tested with 1,221,534 measurements across 20 different ISPs, and the network measurement data collected between 1 July 2022 and 1 July 2023 was analysed. We found that 11.39% of measurements were inaccessible, including 7.43% anomaly signals, 0.03% confirmed blocked, and 3.92% failures. The confirmed blocking cases happened mostly with military and state-owned providers such as Viettel Group, VNPT, and MOBIFONE. With confirmed blocking cases, all ISPs used DNS blocking and HTTP body blocking.

The key findings of this study show that Vietnamese ISPs appear to be implementing censorship through DNS and HTTP requests (DNS tampering and IP address blocking into black list) which serve block pages. It's worth noting that Vietnamese ISPs appear to be implementing censorship at their own discretion, since the types of sites blocked vary across ISPs as well as the length of time to block or allow access.

As part of this study, the highest number of blocked sites were found in the following categories:

- Political Criticism
- News Media
- Human Rights

The fact that these categories are not blocked on all networks leads us to believe that the Vietnamese ISPs might have been filtering content under broad government orders to block content related to political opposition, corruption, and human rights and content that is unfavourable to the party. On a positive note, WhatsApp, Telegram, and Signal applications seemed to be accessible on almost all tested networks during the testing period. However, there were signs of blocking Facebook Messenger in February 2023. Compared with the previous year's report in 2022, censorship phenomena showed an increasing trend over time.

### **Contribute to the study**

If you would like to contribute to the OONI measurements, there are several ways to get involved:

- Testing: You may test on [various platforms](#), both on Mobile (iOS and Android) and Desktop, including on the CLI on Linux platforms. The domains you test can be either randomly selected from the [Citizenlab Test Lists](#) or custom test lists specific to your needs.
- Contribute to the test lists: You can contribute to the test lists on GitHub or on [OONI](#).

- Translation: Translate the OONI Probe to your local language [here](#).
- Join the community: Participate in community discussions on [OOONI's Slack channel](#).

## Acknowledgements

We would like to express our gratitude to local partners, activists, academicians, researchers, and anonymous users in Vietnam for running the OONI Probe.

## Annex I: List of confirmed blockings

Blocked Websites	Categories	ASN	Details
<a href="http://anhduong.net/">http://anhduong.net/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>
<a href="http://anonymouse.org/">http://anonymouse.org/</a>	Anonymization and circumvention tools	AS7552, AS131429	<a href="#">Link</a>
<a href="http://bacaytruc.blogspot.com/">http://bacaytruc.blogspot.com/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://bloc8406vn.blogspot.com/">http://bloc8406vn.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="http://camnanggioitinh.edu.vn/">http://camnanggioitinh.edu.vn/</a>	Sex Education	AS7552	<a href="#">Link</a>
<a href="http://comohacerseunaborto.com/">http://comohacerseunaborto.com/</a>	Sex Education	AS45903	<a href="#">Link</a>
<a href="http://danquyen.com/">http://danquyen.com/</a>	News Media	AS7552, AS131429	<a href="#">Link</a>
<a href="http://datviet.free.fr/">http://datviet.free.fr/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://diendanctm.blogspot.com/">http://diendanctm.blogspot.com/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://ducme.tv/">http://ducme.tv/</a>	Religion	AS7552	<a href="#">Link</a>
<a href="http://endtorturevn.org/">http://endtorturevn.org/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>
<a href="http://fteproxy.org/">http://fteproxy.org/</a>	Anonymization and circumvention tools	AS131429	<a href="#">Link</a>
<a href="http://gockhuatviet.com/forum.php/">http://gockhuatviet.com/forum.php/</a>	Pornography	AS7552	<a href="#">Link</a>
<a href="http://goken.free.fr/">http://goken.free.fr/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://hot.gamevatruyen.com/">http://hot.gamevatruyen.com/</a>	Provocative Attire	AS7552	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="http://kickassclassical.com/">http://kickassclassical.com/</a>	Culture	AS7552	<a href="#">Link</a>
<a href="http://mec.org.vn/vi/">http://mec.org.vn/vi/</a>	Human Rights Issues	AS7552	<a href="#">Link</a>
<a href="http://motphimmoi.net/">http://motphimmoi.net/</a>	Media sharing	AS7552, AS131429	<a href="#">Link</a>
<a href="http://nguoidan.net/wordpress/">http://nguoidan.net/wordpress/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://nguyenthaihocfoundation.org/">http://nguyenthaihocfoundation.org/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://ntuongthuy.blogspot.com/">http://ntuongthuy.blogspot.com/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://ocsp.int-x3.letsencrypt.org/">http://ocsp.int-x3.letsencrypt.org/</a>	Hosting and Blogging Platforms	AS7552	<a href="#">Link</a>
<a href="http://phamthanhnghien.blogspot.com/">http://phamthanhnghien.blogspot.com/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://phvn.org/">http://phvn.org/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://radiothongluan.free.fr/">http://radiothongluan.free.fr/</a>	Political Criticism	AS7552	<a href="#">Link</a>
<a href="http://tdngonluan.com/">http://tdngonluan.com/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://truongduynhat.org/">http://truongduynhat.org/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://vietfederation.ca/">http://vietfederation.ca/</a>	Culture	AS7552, AS131429	<a href="#">Link</a>
<a href="http://vietinfo.eu/">http://vietinfo.eu/</a>	News Media	AS7552, AS131429	<a href="#">Link</a>
<a href="http://vietnamese.cri.cn/">http://vietnamese.cri.cn/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="http://vietnamrightnow.com/">http://vietnamrightnow.com/</a>	News Media	AS7552, AS131429	<a href="#">Link</a>
<a href="http://vietquoc.com/">http://vietquoc.com/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://vietsingle.vietfun.com/">http://vietsingle.vietfun.com/</a>	Online Dating	AS7552, AS131429	<a href="#">Link</a>
<a href="http://vnhrnet.org/">http://vnhrnet.org/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>
<a href="http://vnyouth.com/">http://vnyouth.com/</a>	Culture	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.888casino.com/">http://www.888casino.com/</a>	Gambling	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.absinth.com/">http://www.absinth.com/</a>	Alcohol & Drugs	AS131429	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="http://www.bitcomet.com/">http://www.bitcomet.com/</a>	File-sharing	AS131429	<a href="#">Link</a>
<a href="http://www.boxitvn.net/">http://www.boxitvn.net/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.cannabis.info/">http://www.cannabis.info/</a>	Alcohol & Drugs	AS7552	<a href="#">Link</a>
<a href="http://www.chuavietnam.com/">http://www.chuavietnam.com/</a>	Religion	AS7552	<a href="#">Link</a>
<a href="http://www.coithienthai.com/">http://www.coithienthai.com/</a>	Pornography	AS7552	<a href="#">Link</a>
<a href="http://www.ecequality.org/">http://www.ecequality.org/</a>	LGBT	AS131429	<a href="#">Link</a>
<a href="http://www.freehomepage.com/">http://www.freehomepage.com/</a>	Hosting and Blogging Platforms	AS7552	<a href="#">Link</a>
<a href="http://www.hackforums.net/">http://www.hackforums.net/</a>	Hacking Tools	AS131429, AS45899	<a href="#">Link</a>
<a href="http://www.haiquanvietnamconghoa.com/">http://www.haiquanvietnamconghoa.com/</a>	Social Networking	AS131429	<a href="#">Link</a>
<a href="http://www.heritage.org/">http://www.heritage.org/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="http://www.hizb-ut-tahrir.org/">http://www.hizb-ut-tahrir.org/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="http://www.hrcr.org/">http://www.hrcr.org/</a>	Human Rights Issues	AS7552, AS24086	<a href="#">Link</a>
<a href="http://www.inetprivacy.com/">http://www.inetprivacy.com/</a>	Anonymization and circumvention tools	AS131429	<a href="#">Link</a>
<a href="http://www.irna.ir/">http://www.irna.ir/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="http://www.islamdoor.com/">http://www.islamdoor.com/</a>	Religion	AS7552	<a href="#">Link</a>
<a href="http://www.kcna.kp/">http://www.kcna.kp/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="http://www.metacafe.com/">http://www.metacafe.com/</a>	Media sharing	AS131429	<a href="#">Link</a>
<a href="http://www.metal-archives.com/">http://www.metal-archives.com/</a>	Culture	AS131429	<a href="#">Link</a>
<a href="http://www.mevietnam.org/">http://www.mevietnam.org/</a>	Government	AS7552	<a href="#">Link</a>
<a href="http://www.mhro.org/">http://www.mhro.org/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="http://www.montagnards.org/">http://www.montagnards.org/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>
<a href="http://www.msftconnecttest.com/connecttest.txt">http://www.msftconnecttest.com/connecttest.txt</a>	Control content	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.nazi-lauck-nsdapao.com/">http://www.nazi-lauck-nsdapao.com/</a>	Hate Speech	AS7552	<a href="#">Link</a>
<a href="http://www.on-instant.com/">http://www.on-instant.com/</a>	Communication Tools	AS131429	<a href="#">Link</a>
<a href="http://www.phamdoantrang.com/">http://www.phamdoantrang.com/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.phenoelit.org/">http://www.phenoelit.org/</a>	Hacking Tools	AS7552	<a href="#">Link</a>
<a href="http://www.pokerstars.com/">http://www.pokerstars.com/</a>	Gambling	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.pornhub.com/">http://www.pornhub.com/</a>	Pornography	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.protest.net/">http://www.protest.net/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>
<a href="http://www.qhtyzx.com/">http://www.qhtyzx.com/</a>	News Media	AS7552, AS131429, AS24086	<a href="#">Link</a>
<a href="http://www.radicalparty.org/">http://www.radicalparty.org/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>
<a href="http://www.radiodln.com/">http://www.radiodln.com/</a>	News Media	AS7552, AS131429, AS24086	<a href="#">Link</a>
<a href="http://www.repubblica.com/">http://www.repubblica.com/</a>	News Media	AS7552	<a href="#">Link</a>
<a href="http://www.ruf-ch.org/">http://www.ruf-ch.org/</a>	News Media	AS7552, AS24086	<a href="#">Link</a>
<a href="http://www.securenym.net/">http://www.securenym.net/</a>	Communication Tools	AS131429	<a href="#">Link</a>
<a href="http://www.spinpalace.com/">http://www.spinpalace.com/</a>	Gambling	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.stopstreetharassment.org/">http://www.stopstreetharassment.org/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>
<a href="http://www.talawas.org/">http://www.talawas.org/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="http://www.tinparis.net/">http://www.tinparis.net/</a>	Social Networking	AS7552	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="http://www.tqlcvn.org/">http://www.tqlcvn.org/</a>	Culture	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.vietnamdaily.com/">http://www.vietnamdaily.com/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="http://www.vietnamhumanrights.net/">http://www.vietnamhumanrights.net/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.voanews.com/">http://www.voanews.com/</a>	News Media	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.xvideos.com/">http://www.xvideos.com/</a>	Pornography	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.youporn.com/">http://www.youporn.com/</a>	Pornography	AS7552, AS131429	<a href="#">Link</a>
<a href="http://www.zone-h.org/">http://www.zone-h.org/</a>	Hacking Tools	AS131429	<a href="#">Link</a>
<a href="http://xinloiong.jonathanlondon.net/">http://xinloiong.jonathanlondon.net/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="http://zw.dongxingnet.com/index.php?siteid=1/">http://zw.dongxingnet.com/index.php?siteid=1/</a>	News Media	AS7552, AS24086	<a href="#">Link</a>
<a href="https://anhbasam.wordpress.com/">https://anhbasam.wordpress.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://baotiengdan.com/">https://baotiengdan.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://basam.vet/">https://basam.vet/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://bi.org/">https://bi.org/</a>	LGBT	AS131429	<a href="#">Link</a>
<a href="https://bitcoin-mix.org/">https://bitcoin-mix.org/</a>	Economics	AS7552	<a href="#">Link</a>
<a href="https://cdn-client.medium.com/lite/static/js/manifest.ef5f44d2.js">https://cdn-client.medium.com/lite/static/js/manifest.ef5f44d2.js</a>	Hosting and Blogging Platforms	AS7552, AS131429	<a href="#">Link</a>
<a href="https://dailystormer.name/">https://dailystormer.name/</a>	Political Criticism	AS7552	<a href="#">Link</a>
<a href="https://danlambaovn.blogspot.com/">https://danlambaovn.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://danoanviet.blogspot.com/">https://danoanviet.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://disqus.com/">https://disqus.com/</a>	Communication Tools	AS131429	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="https://doithoaionline.wordpress.com/">https://doithoaionline.wordpress.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://dungday.tripod.com/">https://dungday.tripod.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://ethongluan.org/">https://ethongluan.org/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://exodusforvietnam.wordpress.com/">https://exodusforvietnam.wordpress.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://fhspollution.erf.org.tw/">https://fhspollution.erf.org.tw/</a>	Environment	AS7552	<a href="#">Link</a>
<a href="https://haingoaiphiedam.com/">https://haingoaiphiedam.com/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://hanhtinh-titanic.org/">https://hanhtinh-titanic.org/</a>	Environment	AS45899, AS45903	<a href="#">Link</a>
<a href="https://hrc.org.vn/">https://hrc.org.vn/</a>	Human Rights Issues	AS7552	<a href="#">Link</a>
<a href="https://huynhngocchenh.blogspot.com/">https://huynhngocchenh.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://khoi8406vn.blogspot.com/">https://khoi8406vn.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://lequocquan.blogspot.com/">https://lequocquan.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://miro.medium.com/robots.txt">https://miro.medium.com/robots.txt</a>	Hosting and Blogging Platforms	AS7552, AS131429	<a href="#">Link</a>
<a href="https://nguoibuongio1972.blogspot.com/">https://nguoibuongio1972.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://nhatnguyet2014.wordpress.com/">https://nhatnguyet2014.wordpress.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://occupystreams.org/">https://occupystreams.org/</a>	Political Criticism	AS18403	<a href="#">Link</a>
<a href="https://phimbo.tv/">https://phimbo.tv/</a>	Media sharing	AS7552, AS131429	<a href="#">Link</a>
<a href="https://pornhub.com/">https://pornhub.com/</a>	Pornography	AS131429	<a href="#">Link</a>
<a href="https://quediem.org/">https://quediem.org/</a>	Hacking Tools	AS7552	<a href="#">Link</a>
<a href="https://saigonbao.com/">https://saigonbao.com/</a>	Search Engines	AS131429	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="https://scontent-frt3-2.cdninstagram.com/favicon.ico">https://scontent-frt3-2.cdninstagram.com/favicon.ico</a>	Social Networking	AS7552, AS131429	<a href="#">Link</a>
<a href="https://secure.flickr.com/">https://secure.flickr.com/</a>	Media sharing	AS7552	<a href="#">Link</a>
<a href="https://site.voicepulse.com/">https://site.voicepulse.com/</a>	Communication Tools	AS7552	<a href="#">Link</a>
<a href="https://tambao.info/amp/">https://tambao.info/amp/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://techroute.vn/">https://techroute.vn/</a>	Hacking Tools	AS7552	<a href="#">Link</a>
<a href="https://the88project.org/">https://the88project.org/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>
<a href="https://thoibao.com/">https://thoibao.com/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://tiengnoidanchu.wordpress.com/">https://tiengnoidanchu.wordpress.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://vi.rfi.fr/viet-nam/">https://vi.rfi.fr/viet-nam/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://vietbao.com/">https://vietbao.com/</a>	Culture	AS131429	<a href="#">Link</a>
<a href="https://viethaingoi.net/">https://viethaingoi.net/</a>	News Media	AS7552	<a href="#">Link</a>
<a href="https://vietnamthoibao.org/">https://vietnamthoibao.org/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://viettan.org/">https://viettan.org/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://vn.theasianparent.com/">https://vn.theasianparent.com/</a>	Public Health	AS131429	<a href="#">Link</a>
<a href="https://vnctcmd.blogspot.com/">https://vnctcmd.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://vnhrdmay11.org/">https://vnhrdmay11.org/</a>	Human Rights Issues	AS7552	<a href="#">Link</a>
<a href="https://vnwhr.net/">https://vnwhr.net/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>
<a href="https://weibo.com/">https://weibo.com/</a>	Social Networking	AS131429	<a href="#">Link</a>
<a href="https://www.amnesty.org/">https://www.amnesty.org/</a>	Human Rights Issues	AS7552	<a href="#">Link</a>
<a href="https://www.anhembandung.org/">https://www.anhembandung.org/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://www.baocalitoday.com/">https://www.baocalitoday.com/</a>	News Media	AS131429	<a href="#">Link</a>



Blocked Websites	Categories	ASN	Details
<a href="https://www.bbc.com/">https://www.bbc.com/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.bbc.com/news/world-51235105">https://www.bbc.com/news/world-51235105</a>	Public Health	AS131429	<a href="#">Link</a>
<a href="https://www.bbc.com/vietnamese/">https://www.bbc.com/vietnamese/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.bbc.com/vietnamese/vietnam/">https://www.bbc.com/vietnamese/vietnam/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.bpsos.org/">https://www.bpsos.org/</a>	Human Rights Issues	AS131429	<a href="#">Link</a>
<a href="https://www.catholic.org/">https://www.catholic.org/</a>	Religion	AS7552	<a href="#">Link</a>
<a href="https://www.danchimviet.info/">https://www.danchimviet.info/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.danluan.org/">https://www.danluan.org/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.datviet.com/">https://www.datviet.com/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.diendan.org/">https://www.diendan.org/</a>	Social Networking	AS7552	<a href="#">Link</a>
<a href="https://www.dongcong.net/">https://www.dongcong.net/</a>	Religion	AS7552	<a href="#">Link</a>
<a href="https://www.giaitriluke.com/">https://www.giaitriluke.com/</a>	Gambling	AS7552	<a href="#">Link</a>
<a href="https://www.gofundme.com/">https://www.gofundme.com/</a>	Economics	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.haaretz.com/">https://www.haaretz.com/</a>	News Media	AS7552	<a href="#">Link</a>
<a href="https://www.haaretz.com/life/five-films-you-have-to-see-at-tel-aviv-s-international-lgbt-film-festival-1.7338266">https://www.haaretz.com/life/five-films-you-have-to-see-at-tel-aviv-s-international-lgbt-film-festival-1.7338266</a>	LGBT	AS7552	<a href="#">Link</a>
<a href="https://www.hoixuan.biz/">https://www.hoixuan.biz/</a>	Provocative Attire	AS131429	<a href="#">Link</a>
<a href="https://www.libgen.tw/">https://www.libgen.tw/</a>	File-sharing	AS7552	<a href="#">Link</a>
<a href="https://www.luatkhoea.org/">https://www.luatkhoea.org/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="https://www.minds.com/">https://www.minds.com/</a>	Social Networking	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.nguoi-viet.com/">https://www.nguoi-viet.com/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.persecution.org/">https://www.persecution.org/</a>	Religion	AS7552	<a href="#">Link</a>
<a href="https://www.pornhub.com/">https://www.pornhub.com/</a>	Pornography	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.rfa.org/">https://www.rfa.org/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.rfa.org/vietnamese/">https://www.rfa.org/vietnamese/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.saigonbao.com/vietnam/daidien1.htm/">https://www.saigonbao.com/vietnam/daidien1.htm/</a>	Political Criticism	AS131429	<a href="#">Link</a>
<a href="https://www.sbs.com.au/language/coronavirus?cid=infocus">https://www.sbs.com.au/language/coronavirus?cid=infocus</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.sbtn.tv/">https://www.sbtn.tv/</a>	News Media	AS131429	<a href="#">Link</a>
<a href="https://www.thevietnamese.org/">https://www.thevietnamese.org/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.thongluan.blog/">https://www.thongluan.blog/</a>	Political Criticism	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.twitch.tv/">https://www.twitch.tv/</a>	Media sharing	AS131429	<a href="#">Link</a>
<a href="https://www.vietcovid.org/">https://www.vietcovid.org/</a>	Public Health	AS7552	<a href="#">Link</a>
<a href="https://www.vietnamhumanrightsdefenders.net/">https://www.vietnamhumanrightsdefenders.net/</a>	Human Rights Issues	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.voatiengviet.com/">https://www.voatiengviet.com/</a>	News Media	AS7552, AS131429	<a href="#">Link</a>
<a href="https://www.xaluan.com/">https://www.xaluan.com/</a>	News Media	AS7552	<a href="#">Link</a>
<a href="https://xamvn.me/">https://xamvn.me/</a>	Social Networking	AS131429	<a href="#">Link</a>
<a href="https://xhamster.com/">https://xhamster.com/</a>	Pornography	AS131429	<a href="#">Link</a>
<a href="https://xuandienhannom.blogspot.com/">https://xuandienhannom.blogspot.com/</a>	Political Criticism	AS131429	<a href="#">Link</a>

## Annex II: List of ISPs

ASN	ASN Name	Measurement Count	Anomaly	Confirmed	Failure
AS45899	VNPT Corp	413,487	31,269	23	11,632
AS18403	The Corporation for Financing & Promoting Technology	268,39	17,864	0	9,012
AS7552	Viettel Group	404,144	33,804	384	15,857
AS131429	MOBIFONE Corporation	115,62	6,184	8	10,558
AS45543	SaiGon Tourist cable Television Company	45	0	0	0
AS38247	Vietnamobile Telecommunications Joint Stock Company	604	59	0	84
AS16276	OVH SAS	100	8	0	0
AS38731	Vietel - CHT Company Ltd	1,011	25	0	40
AS24086	Viettel Corporation	5,618	603	0	178
AS135905	VIETNAM POSTS AND TELECOMMUNICATIONS GROUP	2,053	115	0	64
AS45903	CMC Telecom Infrastructure Company	5,526	345	3	147
AS55309	Minh Tu Telecom Limited Company	649	12	0	13
AS24176	Branch of Netnam Company in Ho Chi Minh City	12	2	0	0
AS135158	Softnet Limited	127	4	0	5
AS24173	Netnam Company	800	133	0	17
AS7602	Saigon Postel Corporation	11	0	0	0
AS63739	VIETPN Company Limited	1	0	0	0

AS24088	Hanoi Telecom Joint Stock Company - HCMC Branch	438	222	2	24
AS133606	Viettel Timor Leste	680	113	0	51
AS140825	Thien Quang Digital technology joint stock company	22	0	0	0

## Annex III: Glossary

DNS	<p>DNS stands for “Domain Name System” and it maps domain names to IP addresses.</p> <p>A domain is a name that is commonly attributed to websites when they’re created, so that they can be more easily accessed and remembered. For example, twitter.com is the domain of the Twitter website.</p> <p>However, computers can’t connect to internet services through domain names. They do so through IP addresses: the digital address of each service on the internet. Similarly, in the physical world, you would need the address of a house (rather than the name of the house itself) in order to visit it.</p> <p>The Domain Name System (DNS) is responsible for transforming a human- readable domain name (such as ooni.org) into its numerical IP address counterpart (in this case:104.198.14.52), thus allowing your computer to access the intended website.</p>
HTTP	<p>The Hypertext Transfer Protocol (HTTP) is the underlying protocol used by the World Wide Web to transfer or exchange data across the internet.</p> <p>The HTTP protocol allows communication between a client and a server. It does so by handling a client’s request to connect to a server, and the server’s response to the client’s request.</p> <p>All websites include an HTTP (or HTTPS) prefix (such as http://example.com/) so that your computer (the client) can request and receive the content of a website (hosted on a server).</p> <p>The transmission of data over the HTTP protocol is unencrypted.</p>
Heuristics	<p>Heuristics obtain further confirmed blockings other than those which are detected based on OONI blocking fingerprints. More detailed explanation is found <a href="#">here</a>.</p>

ISP	<p>An Internet Service Provider (ISP) is an organisation that provides services for accessing and using the internet.</p> <p>ISPs can be state-owned, commercial, community-owned, non-profit, or otherwise privately owned.</p> <p>Vodafone, AT&amp;T, Airtel, and MTN are examples of ISPs.</p>
Middle boxes	<p>A middlebox is a computer networking device that transforms, inspects, filters, or otherwise manipulates traffic for purposes other than packet forwarding.</p> <p>Many Internet Service Providers (ISPs) around the world use middleboxes to improve network performance, provide users with faster access to websites, and for a number of other networking purposes.</p> <p>Middleboxes are sometimes also used to implement internet censorship and/or surveillance.</p> <p>The OONI Probe app includes two tests designed to measure networks with the aim of identifying the presence of middleboxes.</p>
TCP	<p>The Transmission Control Protocol (TCP) is one of the main protocols on the internet.</p> <p>To connect to a website, your computer needs to establish a TCP connection to the address of that website.</p> <p>TCP works on top of the Internet Protocol (IP), which defines how to address computers on the internet.</p> <p>When speaking to a machine over the TCP protocol you use an IP and port pair, which looks something like this: 10.20.1.1:8080.</p> <p>The main difference between TCP and (another very popular protocol called) UDP is that TCP has the notion of a “connection”, making it a “reliable” transport protocol.</p>
TLS	<p>Transport Layer Security (TLS) – also referred to as “SSL” – is a cryptographic protocol that allows you to maintain a secure, encrypted connection between your computer and an internet service.</p> <p>When you connect to a website through TLS, the address of the website will begin with HTTPS (such as <a href="https://www.facebook.com/">https://www.facebook.com/</a>), instead of HTTP.</p>

A comprehensive glossary related to OONI can be accessed here: <https://ooni.org/support/glossary/>.

## **Annex IV: Methodology**

### **Data**

Data computed based on the heuristics for this report can be downloaded here: <https://github.com/Sinar/imap-data>, whereas aggregated data can be downloaded from [OONI Explorer](#).

### **Coverage**

The iMAP State of Internet Censorship Country Report covers the findings of network measurements collected through the Open Observatory of Network Interference (OONI) [OONI Probe App](#) that measures the blocking of websites, instant messaging apps, circumvention tools and network tampering. The findings highlight the websites, instant messaging apps and circumvention tools confirmed to be blocked, as well as ASNs with censorship detected and the applied methods of network interference. The report also provides background context on the network landscape combined with the latest legal, social and political issues and events which might have affected the implementation of internet censorship in the country.

In terms of timeline, this iMAP report covers measurements obtained in the one-year period from 1 July 2022 to 30 June 2023. The countries covered in this round are Cambodia, Hong Kong (China), India, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam, and Timor Leste.

### **How are the network measurements gathered?**

Network measurements are gathered through the use of the [OONI Probe app](#), a free software tool developed by [Open Observatory of Network Interference \(OONI\)](#). To learn more about how the OONI Probe test works, please visit <https://ooni.org/nettest/>.

iMAP Country Researchers and anonymous volunteers run the OONI Probe app to examine the accessibility of websites included in the [Citizen Lab test lists](#). iMAP Country Researchers actively review the country-specific test lists to ensure up-to-date websites are included and context-relevant websites are properly categorised, in consultation with local communities and digital rights network partners. We adopt the [approach taken by Netalitica](#) in reviewing country-specific test lists.

It is important to note that the findings are only applicable to the websites that were examined and do not fully reflect all instances of censorship that might have occurred during the testing period.

### **How are the network measurements analysed?**

OONI processes the following types of data through its [data pipeline](#):

## Country code

By default, OONI collects the code which corresponds to the country from which the user is running OONI Probe tests from. It does so by automatically searching for it based on the user's IP address through their [ASN database](#) and the [MaxMind GeolP database](#).

## Autonomous System Number (ASN)

By default, OONI collects the Autonomous System Number (ASN) of the network used to run the OONI Probe app, thereby revealing the network provider of a user.

## Date and time of measurements

By default, OONI collects the time and date of when tests were run in order to determine when network interferences occur and to allow for time comparison. The time and date data uses UTC as the standard time zone. In addition, the charts generated on OONI MAT exclude measurements on the last day by default.

## Categories

The 32 website categories are based on the Citizenlab test lists: <https://github.com/citizenlab/test-lists>. As not all websites tested on OONI are on these test lists, certain websites would be categorised as unclassified.

No.	Category Description	Code	Description
1	Alcohol & Drugs	ALDR	Sites devoted to the use, paraphernalia, and sale of drugs and alcohol irrespective of the local legality.
2	Religion	REL	Sites devoted to discussion of religious issues, both supportive and critical, as well as discussion of minority religious groups.
3	Pornography	PORN	Hard-core and soft-core pornography.
4	Provocative Attire	PROV	Websites which show provocative attire and portray women in a sexual manner, wearing minimal clothing.
5	Political Criticism	POLR	Content that offers critical political viewpoints. Includes critical authors and bloggers, as well as oppositional political organisations. Includes pro-democracy content, anti-corruption content as well as content calling for changes in leadership, governance issues, legal reform. Etc.
6	Human Rights Issues	HUMR	Sites dedicated to discussing human rights issues in various forms. Includes women's rights and rights of minority ethnic groups.

No.	Category Description	Code	Description
7	Environment	ENV	Pollution, international environmental treaties, deforestation, environmental justice, disasters, etc.
8	Terrorism and Militants	MILX	Sites promoting terrorism, violent militant or separatist movements.
9	Hate Speech	HATE	Content that disparages particular groups or persons based on race, sex, sexuality or other characteristics
10	News Media	NEWS	This category includes major news outlets (BBC, CNN, etc.) as well as regional news outlets and independent media.
11	Sex Education	XED	Includes contraception, abstinence, STDs, healthy sexuality, teen pregnancy, rape prevention, abortion, sexual rights, and sexual health services.
12	Public Health	PUBH	HIV, SARS, bird flu, centres for disease control, World Health Organization, etc
13	Gambling	GMB	Online gambling sites. Includes casino games, sports betting, etc.
14	Anonymization and circumvention tools	ANON	Sites that provide tools used for anonymization, circumvention, proxy-services and encryption.
15	Online Dating	DATE	Online dating services which can be used to meet people, post profiles, chat, etc
16	Social Networking	GRP	Social networking tools and platforms.
17	LGBT	LGBT	A range of gay-lesbian-bisexual-transgender queer issues. (Excluding pornography)
18	File-sharing	FILE	Sites and tools used to share files, including cloud-based file storage, torrents and P2P file-sharing tools.
19	Hacking Tools	HACK	Sites dedicated to computer security, including news and tools. Includes malicious and non-malicious content.
20	Communication Tools	COMT	Sites and tools for individual and group communications. Includes webmail, VoIP, instant messaging, chat and mobile messaging applications.



No.	Category Description	Code	Description
21	Media sharing	MMED	Video, audio or photo sharing platforms.
22	Hosting and Blogging Platforms	HOST	Web hosting services, blogging and other online publishing platforms.
23	Search Engines	SRCH	Search engines and portals.
24	Gaming	GAME	Online games and gaming platforms, excluding gambling sites.
25	Culture	CULTR	Content relating to entertainment, history, literature, music, film, books, satire and humour.
26	Economics	ECON	General economic development and poverty related topics, agencies and funding opportunities.
27	Government	GOVT	Government-run websites, including military sites.
28	E-commerce	COMM	Websites of commercial services and products.
29	Control content	CTRL	Benign or innocuous content used as a control.
30	Intergovernmental Organisations	IGO	Websites of intergovernmental organisations such as the United Nations.
31	Miscellaneous content	MISC	Sites that don't fit in any category (XXX Things in here should be categorised)

## IP addresses and other information

OONI does not collect or store users' IP addresses deliberately. To protect its users from [potential risks](#), [OONI takes measures to remove IP addresses from the collected measurements](#). However, there may be instances where users' IP addresses and other potentially personally-identifiable information are unintentionally collected, if such information is included in the HTTP headers or other metadata of measurements. For example, this can occur if the tested websites include tracking technologies or custom content based on a user's network location.

## Network measurements

The types of network measurements that OONI collects depend on the types of tests that are run. Specifications about each OONI test can be viewed through its [git repository](#), and details about what collected network measurements entail can be viewed through [OONI Explorer](#) or through [OONI's measurement API](#).

In order to derive meaning from the measurements collected, OONI processes the data types mentioned above to answer the following questions:

- Which types of OONI tests were run?
- In which countries were those tests run?
- On which networks were those tests run?
- When were the tests run?
- What types of network interference occurred?
- In which countries did network interference occur?
- In which networks did network interference occur?
- When did network interference occur?
- How did network interference occur?

To answer such questions, OONI's pipeline is designed to answer such questions by processing network measurement data to enable the following:

- Attributing measurements to a specific country.
- Attributing measurements to a specific network within a country.
- Distinguishing measurements based on the specific tests that were run for their collection.
- Distinguishing between “normal” and “anomalous” measurements (the latter indicating that a form of network tampering is likely present).
- Identifying the type of network interference based on a set of heuristics for DNS tampering, TCP/IP blocking, and HTTP blocking.
- Identifying block pages based on a set of heuristics for HTTP blocking.
- Identifying the presence of “middle boxes” within tested networks.

According to OONI, false positives may occur within the processed data due to a number of reasons. DNS resolvers (operated by Google or a local ISP) often provide users with IP addresses that are closest to them geographically. While this may appear to be a case of DNS tampering, it is actually done with the intention of providing users with faster access to websites. Similarly, false positives may emerge when tested websites serve different content depending on the country that the user is connecting from or when websites return failures even though they are not tampered with.

Furthermore, measurements indicating HTTP or TCP/IP blocking might actually be due to temporary HTTP or TCP/IP failures; they may not conclusively be a sign of network interference. It is therefore important to test the same sets of websites across time and to cross-correlate data before reaching a conclusion on whether websites are in fact being blocked.

Since block pages differ from country to country and sometimes even from network to network, it is quite challenging to accurately identify them. OONI uses a series of heuristics to try to guess if the page in question differs from the expected control, but these heuristics can often result in false positives. For this reason OONI only confirms an instance of blocking when a block page is detected.

Upon the collection of more network measurements, OONI continues to develop its data analysis heuristics, based on which it attempts to accurately identify censorship events.

## Confirmed vs. Heuristics

Confirmed OONI measurements were based on blockpages with fingerprints recorded here <https://github.com/ooni/blocking-fingerprints>.

Hence, the heuristics as below run on raw measurements for all countries under iMAP to further confirm blockings.

Firstly, IP addresses with more than 10 domains were identified. Then, each IP address was checked for the following:

Does the IP in question point to a government blockpage?			
Yes	No, page timed out or shows Content Delivery Network (CDN) page.		
↓	↓		
<b>Confirmed blocking</b>	What information can we get about the IP by doing a whois lookup?		
	Local ISP	CDN / Private IP	
	↓	↓	
	<b>Confirmed blocking</b>	Do we get a valid TLS certificate for one of the domains in question when doing a TLS handshake and specifying the SNI	
		Yes	No, there were blocking fingerprints found.
		↓	↓
		<b>False positive</b>	<b>Confirmed blocking</b>
			No, timed out
			↓
			Sampled measurement is analysed on OONI Explorer.

When blocking is determined, any domain redirected to these IP addresses would be marked as “dns.confirmed”.

Secondly, HTTP titles and bodies were analysed to determine blockpages. This [example](#) shows that the HTTP returns the text “The URL has been blocked as per the instructions of the DoT in compliance to the orders of Court of Law”. Any domain redirected to these HTTP titles and bodies would be marked as “http.confirmed”.

As a result, false positives are eliminated and more confirmed blockings were obtained, including countries like Cambodia, Vietnam and Philippines, which have no confirmed blocking fingerprints on OONI.

In the case of Hong Kong, the results of the heuristics showed external censorship from outside of the country instead of local censorship. Thus, the local researchers had analysed the OONI measurements manually to identify confirmed blockings. The domains identified were based on the timed-out instances.