Internet Censorship in Iran: An Inside Look

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Abstract

Globally, Internet censorship is on the rise and Iran has been portrayed as one of the most critical cases. So far, however, no studies have investigated the issue from an inside look. To fill this literature gap, the present paper aims to provide an overview of Internet censorship in Iran, by assessing the Iranian perspective on Internet freedom, different aspects of the subject, as well as the domestic and foreign types of limitations clients face today. This study has shown that Iran's current filtering policy is a lenient one pursuing Internet development and simultaneously providing protection against potential threats. The Iranian case also includes some global issues such as censorship imposed due to the U.S. sanctions. Specifically, the findings of this study revealed that the range and extent of restrictions imposed on the Iranians' access to mobile applications by the U.S. are significantly more than those placed by the Iranian filtering regime.

Keywords: censorship, Internet filtering. Islamic Republic of Iran, United States of America.

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Introduction

Internet censorship has been a hotly debated topic over the last two decades. Enforced by governments and private firms around the world, this type of censorship can lead to restrictions on certain content as well as clients. Today, the vast majority of governments block Internet materials by applying technical filters over content (Schell, 2014; Zittrain et al., 2017; Ververis et al., 2019). Although the extent and methods of filtering differ from one country to another based on political, cultural, and technological factors, content restrictions are not associated with democracy among countries (Deibert et al., 2008; Stoycheff et al., 2018). However, surveys suggest that Internet censorship has been on the rise globally at all times, adopted by more and more governments (Subramanian, 2011; Zittrain et al., 2017). As a result, both old and new forms of censorship are now being used even by governments considered rather supportive of Internet freedom and the free flow of information (Schell, 2014; Tufekci, 2018).

When it comes to Iran, a series of research projects have been conducted to evaluate the issue. Some studies have focused on the extent and mechanisms of Internet censorship in the country, suggesting that Iran operates a large, sophisticated Internet surveillance system (Anderson, 2013; Aryan et al., 2013). Iran's filtering regime embraces four major thematic areas: 1) political content, 2) social content, 3) conflict- and security-related content, and 4) Internet tools and applications (Deibert et al., 2008). Besides, Iran has been labeled as a totalitarian, authoritarian, and suppressor enemy of the Internet in some papers (Michaelsen, 2017; Akbari & Gabdulhakov, 2019). So far, studies addressing Internet censorship in Iran have mainly been carried out by researchers outside the country, including foreign academics, political opponents, and, in some cases, anonymous authors. As a result, the literature lacks a detailed internal review of the situation viewing the issues from the perspective of the Iranian people or government. No previous study has attempted to neutrally explore the specific socio-political circumstances of Iran and the role of foreign factors in restricting Iranian users' access to the Internet. This highlights the risk of being limited to a one-sided narrative and hence the need to make significant contributions to the current literature with an inside look.

This paper aims to fill the gap in the literature by examining different dimensions of Internet censorship in Iran. This is not achievable except by an interdisciplinary investigation dealing with both legal and political aspects of the issue. Thus, the present research aims at providing an updated and comprehensive picture of the state of Iranian users' access

to the Internet by assessing the latest developments in the country. To this end, it is necessary to examine the context and factors involved in these restrictions. In addition, the paper is intended to shed light on some new forms of censorship imposed on the users in Iran by foreign entities such as the United States, which has been often overlooked.

The remainder of this paper is structured as follows: Section 2 provides an Iranian perspective on Internet freedom and censorship. Section 3 introduces the key components of Iran's Internet filtering regime, including related institutions, illegal content list, permanent and temporary restrictions, and current filtering policy.

Iranian Perspective on Internet Freedom and Censorship

In early 1993, Iran ranked the Middle East's second nation connected to the Internet, experiencing remarkable growth in the region (Rahimi, 2003). According to the latest figures, the number of Internet users in the country has reached more than 82 million, indicating a penetration rate of 96 percent (Communications Regulatory Authority, 2021; Deutsche Welle, 2021). Similarly, surveys have shown that 73% of the population use at least one of the social networking platforms, WhatsApp, Telegram, and Instagram being the most popular, respectively (ISPA, 2021a). In the case of Instagram, Iran ranked seventh in the number of global users of this platform (Kemp, 2018). Additionally, in terms of speed, Iran enhanced its bandwidth infrastructure, especially the 3G/4G network with 32.3 Mbps, and is one of the pioneers in launching 5G networks (PressTV, 2021; SpeedTest, 2021). Although such facts have been overlooked by previous studies, they should come as no surprise because the country's attitude towards the Internet is based on the doctrine of the 1979 Islamic Revolution, emphasizing the close affinity between technology and faith (Rahimi, 2003).

Fundamentally, the major manifest and slogan of the people in the 1979 revolution were 'Independence, Freedom, and the Islamic Republic'. During the last days leading up to the collapse of the Shah, Imam Khomeini, upon returning to Iran after 15 years in exile, explained the attitudes of the Islamic Revolution to the media: 'We are not opposed to cinema, to radio, or television; we are opposed to corruption; we are opposed to what is in the hands of foreign powers to hold back our youths and destroy our human resources. When have we been opposed to modernity?' (Imam Khomeini, 1979). A year later, the same view was reflected in the Constitution. The second Principle of the Constitution described the Islamic Republic as being based on faith, human dignity, and the sublime value of human beings and freedom along with their responsibility before God. Similarly, Principle 24 of the Constitution,

recognizing freedom of the press, states: 'Publications and the press have freedom of expression except when it is detrimental to the fundamental principles of Islam or the rights of the public'.

Thus, the freedom recognized in the country can be understood to be within the framework of Islam rather than absolute or liberal. In the same way, the regulations associated with the Internet suggest that the 'Right to having free access to the Internet' has been emphasized alongside 'Safeguarding Islamic, national, cultural, and social values' in documents namely 'Principles and Regulations Regarding Computer Networks' (2001) and 'Bylaws Regarding Organizing the Activities of Information Websites' (2006).

Similar views have been reiterated in positions adopted by Iranian officials. For example, Mohammad Khatami, a former reformist president, whose government coincided with the advent of the Internet in the country argued that 'The Internet is a necessity but there is a concern in the world that those with more power may affect national cultures using satellites and the Internet, which is considered a threat to the entire humanity' (Khatami, 2002). Similarly, Ayatollah Ali Khamenei, Iran's Supreme Leader, who had called the Internet 'A blessing and a curse simultaneously', expressed the country's most recent policy regarding the virtual space as the one aimed at 'Development along with purification and prevention of cultural and social harms' (Ayatollah Khamenei, 2002; 2015).

Therefore, it can be concluded that the attitudes towards the Internet by the Islamic Republic of Iran represent a two-dimensional approach, simultaneously emphasizing development and protection against threats, the latter being focused mostly on filtering inappropriate content. That is why what may be called Internet censorship is referred to as *Internet filtering* in Iran, and is considered 'A preventive policy pursued by governments based on their value structures meant to purify the cyberspace' (Bashir & Nasrollahi, 2018).

Although some of the potential threats posed by the Internet from the viewpoint of the Iranian government are shared by all other countries, like cybercrime and illegal pornography, certain factors intensifying the extent of Internet filtering in the Iranian context include:

- Stricter social norms based on Islamic and national culture
- Lack of decriminalization of press offenses
- Lack of cooperation with Iran on the part of some international companies like Telegram in order to help enforce the rule of law and combat security threats, which is in stark contrast with the common approach adopted by such firms towards other countries (Durov, 2017a; 2017b).

- Socio-cultural, religious, and political threats of globalization and international flow of information from developed countries toward developing countries such as Iran, which is one-way, vertical, and predominant (Mowlana, 1985).
- Weaknesses in terms of software and media, which prevent the introduction of proactive strategies including the development of local content, promoting media literacy and, the expansion of domestic services.
- Technological limitations, which make it difficult to govern cyberspace, technologies available to the developed countries and used by them to deal with possible threats, which has rendered censorship unnecessary to some extent.
- The constant existential threat to the Islamic Republic, mostly following anti-Iran efforts by the US, massive propaganda of foreign Persian-speaking media outlets, foreign-backed political opposition, and terrorist groups, all of which are intended to bring about collapse to the Islamic regime.

Iran's Internet Filtering Regime

To better understand the existing limitations on Internet access in Iran, this section discusses various legal and administrative aspects of the Iranian filtering regime. Furthermore, we will outline the current status of the users' access to the Internet in light of the most recent developments and policies.

Related Institutions

Since its introduction, the Internet has been monitored by different institutions, which over time and by changes made to the laws, have been replaced by new institutions. According to the most recent legislation and the existing procedures, the institutions currently responsible for the monitoring of the Internet are as follows:

The Committee for Determining Criminal Content (Filtering Committee)

As per Article 21 of the Computer Crimes Law (enacted in 2009 by the parliament), the issuance of filtering orders has been put under the competency of the Committee for Determining Criminal Content as the principal institution in charge of filtering. The committee is composed of 13 members, of whom 6 members are appointed from government ministries, 2 members from parliamentary committees, 1 member from the judicial system (i.e., the attorney general), and 4 members from institutions directly appointed by the Supreme Leader (the Chief of Islamic Development Organization, director-general of Broadcasting

Organization, Police chief, and the representative of the Supreme Council of the Cultural Revolution). The composition of the committee shows that 8 members are appointed from directly-elected institutions (i.e., the government and the parliament) and 5 members are indirectly-elected institutions (i.e., institutions appointed by the Supreme Leader).

Courts

As mentioned above, the main institution responsible for filtering is the Filtering Committee. Nevertheless, Note 2 of Article 21 of Iran's Computer Crimes Law provides that in cases where there is a private plaintiff, filtering will be done following an order from a judicial officer appointed to deal with the case. This arrangement, the interpretation of which has been very controversial, can be understood in two different perspectives: One interpretation is that based on the main Article and the legal context, filtering requires an order issued by the judge in private cases, which is then followed by the conviction from the committee as to the implementation of the order. Another interpretation is that regarding private cases, the conviction of the court is sufficient. To date, different procedures have been adopted in the implementation of this Note, which has sometimes resulted in filtering, and sometimes no action has been taken. In general, the attorney general tends not to bypass the committee and comply with national regulations. However, in cases where there is a sufficient amount of determination on the part of the judicial branch, the attorney uses maximum capacity and power of this Note to block websites or services of its choice, at any cost, the most notable case being the ban on Telegram messaging app (ISNA, 2018).

Supreme Council of Cyberspace

Another institution associated with decisions on the Internet is the Supreme Council of Cyberspace, which was established in 2012 by an order from the Supreme Leader. The council is the most high-ranking Iranian institution responsible for the Internet intended to constitute a focal point for policymaking, decision-making, and coordination in the country's cyberspace. Presided by the president, this council has 25 members including 8 natural persons appointed by the Supreme Leader and 17 legal persons (8 members from government ministries, 2 members from the parliament, 2 members from the judiciary, and 5 members from other public institutions). The main arm of the council is the National Center for Cyberspace which is responsible for comprehensive domestic and international surveillance and enforcing the enactments of the council (Ayatollah Khamenei, 2012).

Although protection against Internet threats has been mentioned as one of the goals of this council, it has so far taken no action regarding filtering and has mostly focused on developing hardware and software capabilities to overcome the monopoly of foreign platforms (Supreme Council of Cyberspace, 2020).

Ministry of Information and Communications Technology (ICT)
The ICT is not considered by law to be a decision-making agency. It is merely an institution with exclusive control over the Access Service Provider (ASP) and is required to implement the decisions made by previous institutions. The two major arms of this ministry for this purpose include Telecommunication Infrastructure Company, which exclusively manages the bandwidth across the country, and Communications Regulatory Authority (CRA) which issues permits for ISPs and monitors their performance in compliance with technical regulations and a list of cases to be filtered.

Supreme National Security Council (a constitutional institution)
Led by the president, the Supreme National Security Council is the most high-ranking security institution in Iran composed of top-ranking political, military, and intelligence officials. One of the subsidiaries of this institution is the Security Council of the Country led by the Interior Minister. Although the council does not play a role in Internet filtering, it has issued a few orders so far, under emergency conditions, for temporarily blocking Telegram and Instagram, blocking Internet access from mobile networks for a few days in some areas of the country, and finally nationwide Internet blackout for a week (Fars News Agency, 2018; IRNA, 2019).

Illegal Content List
According to the Filtering Committee, the criminality of a certain content determines whether or not it will be publishable on the Internet. Therefore, the list of illegal content along with an extensive interpretation of different types of crime has been drawn up mainly based on Computer Crimes Law (2009), Islamic Penal Law (1991), and Press Law (1986). The list consists of nine categories under which 78 cases have been specified (Filtering Committee, 2021). The categories involved on the list are presented below:
1) Materials against public decency and ethics (six cases) including indecent and obscene materials
2) Materials against Islamic sanctities (seven cases) including insulting to Islam and prophets of Abrahamic faiths
3) Materials against public security and peace (16 cases) including disruption of national solidarity or disclosure of state documents

4) Materials against state and governmental officials (three cases) including defamation and publishing misinformation
5) Materials used for committing computer crimes (9 cases) including cyber spying and phishing
6) Materials that encourage or provoke to commit a crime (8 cases) including encouraging violence, suicide, or drug abuse
7) Criminal materials associated with audio-visual content and intellectual property (4 cases) including illegal products
8) Criminal materials related to parliamentary elections and the Assembly of Experts of the Leadership elections (14 cases) including disrupting the process of elections or vote-buying and vote-selling
9) Criminal materials associated with presidential elections (25 cases) including disrupting the process of elections or vote-buying and vote-selling

Permanent Restrictions
Due to poor transparency, no official list of websites subjected to filtering is available. Moreover, it is possible to add new cases to the list or remove them. In this case, one study by Aryan et al. (2013) investigated the Iranian users' access to the world's top websites in Iran (Table 1).

Table 1. Reachability status of Alexa top-500 websites in different categories in Iran (2013)

Category	Available websites	Percent of availability
Reference	475	95
Science	469	93.8
Health	449	89.8
Home	448	89.6
Recreation	426	85.2
Business	408	81.6
Kids & Teens	407	81.4
Shopping	407	81.4
Sports	407	81.4
Games	404	80.4
Computers	393	78.6
Regional	365	73
News	358	71.6
Society	300	60
Art	261	52.2
Top 500	258	51.6
Adult	23	4.6

Note: Data from Aryan et al. (2013)

However, today, studies like that cannot be replicated using up-to-date data. This is mainly because when access is not given to a blocked website, the old-fashioned Filtering Committee's message 'Access to the requested website is not possible' does not appear for the users as in 2013. Instead, the browser's common technical error is shown with the messages such as 'This site can't be reached' (Figure 1). Therefore, we are not able to distinguish the exact cause of unreachability anymore. Moreover, in some cases, lack of access may be caused by the U.S. increasing sanctions as a result of which webpage owners have blocked access for clients with Iranian IP addresses (Figures 2, 3).
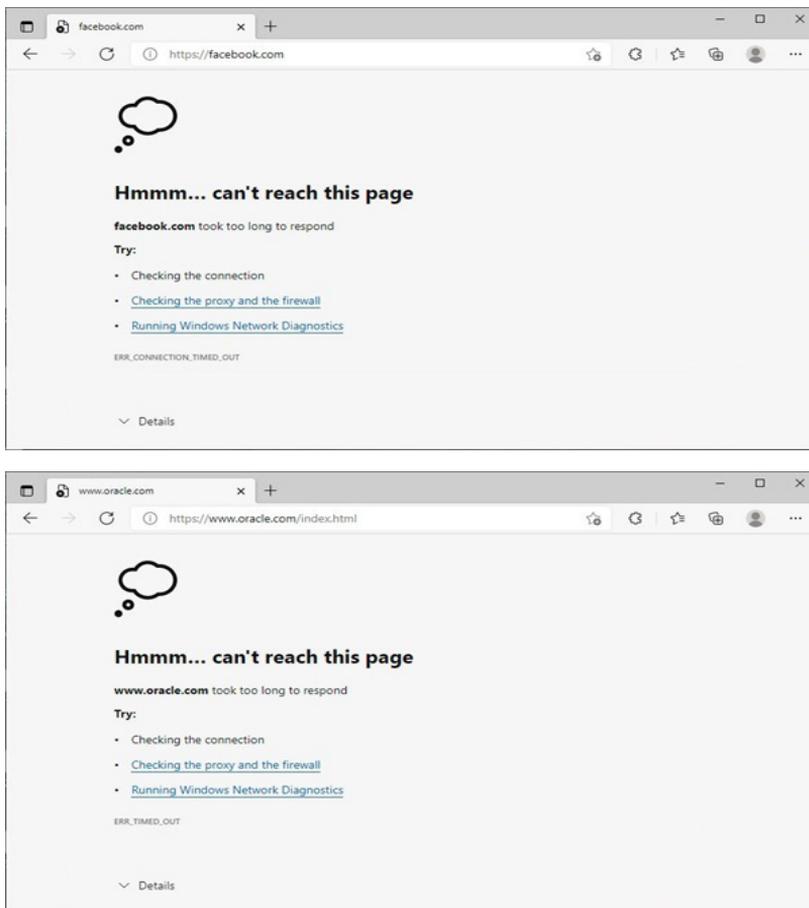

Figure 1. Similar messages shown when clients with Iranian IP addresses try to visit Facebook and Oracle websites, one of which is filtered by the Iranian government while the other one is blocked for Iranian users as a result of the United States sanctions
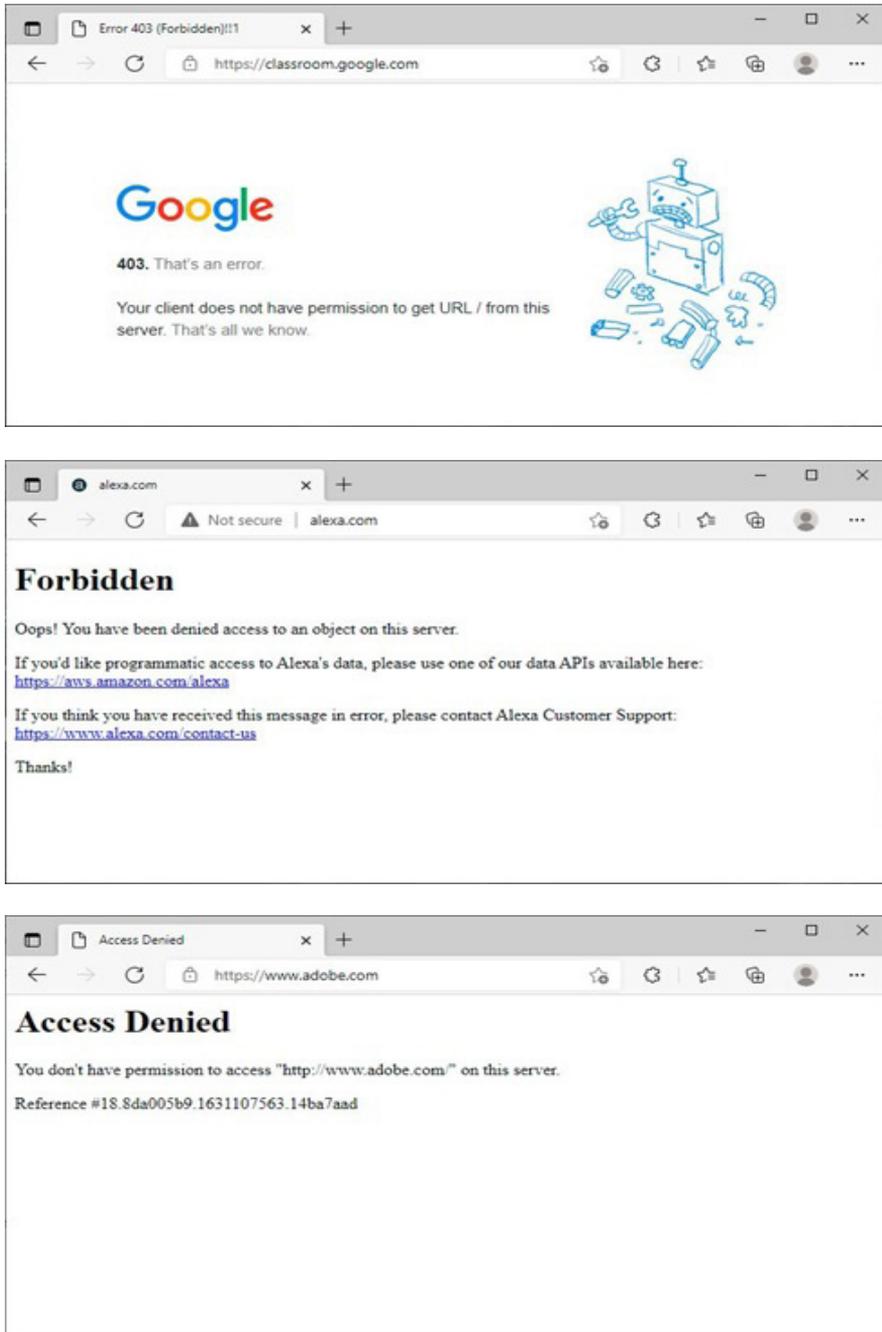
Figure 2. Screenshots from Google Classroom, Alexa and Adobe websites, which implicitly suggest that Iranian users' access is denied or forbidden
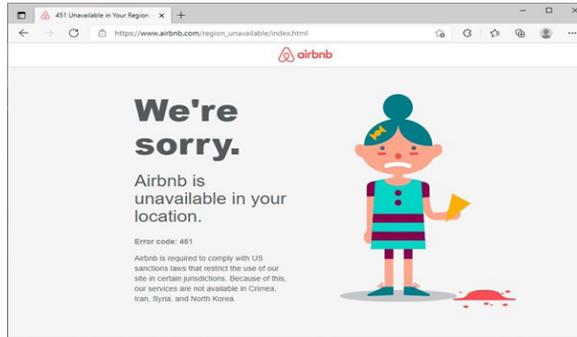
Figure 3. A screenshot of the message shown to Iranian users when they try to visit the Airbnb website (We're sorry. Airbnb is unavailable in your location. Airbnb is required to comply with US sanctions laws that restrict the use of our site in certain jurisdictions. Because of this, our services are not available in Crimea, Iran, Syria, and North Korea)

Thus, instead of updating the reachability status of the world's top websites, we decided to present the latest state of access to the world's top mobile applications in Iran. This approach has a number of attractive features: Firstly, today, mobile apps are increasingly replacing websites. Second, in contrast to the filtered websites for which there isn't any official list, the status of filtered applications can be publicly checked through the Iranian app stores which are required to comply with the Filtering Committee's decisions. In addition, by expanding the study area to Google Play Store, we also managed to document the apps restricting access to their services for Iranian users as a consequence of the U.S. sanctions (Figure 4).
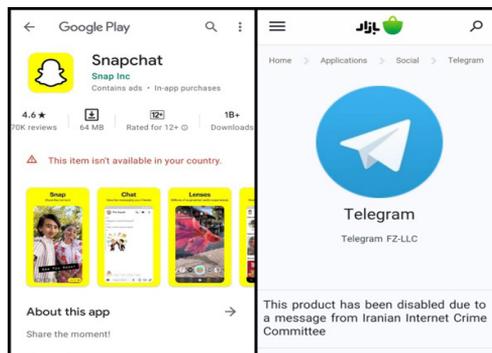
Figure 4. Examples of the error messages clients see in Iran when they try to reach unavailable applications. On the left, 'This item isn't available in your country', Google Play notes on unreachability of Snapchat for Iranian users because of the U.S. sanctions. On the right, 'This product has been disabled due to a message from Iranian Internet Crime Committee', a statement by the Iranian Android marketplace, Café Bazaar, on the Telegram application

Table 2 demonstrates the extent to which Iranian clients have access to the 10 most downloaded applications worldwide in different categories. Besides, in order to make our findings more tangible, we have presented the exact status of apps from the more important categories including Top 10, Communication, and Social Network, as well as the first app in each category (Table 3).

From this data, we can see that Iranian clients have free access to only 53 out of 170 world's top mobile applications (31.1%). In fact, there are 117 applications (68.8%) unavailable for them, including 81 apps (50.5%) due to the U.S. sanctions, 10 apps (5.8%) on account of the Iranian filtering regime, and 21 apps (12.3%) for both factors. Furthermore, however, the Iranian government has mainly filtered Dating (8/10), Social Network (5/10), and Entertainment categories (4/10), the United States has denied Iranian people access to mobile apps in a considerably wider range. Respectively, these categories have been restricted more than the others: Banking (10/10), Remittance (10/10), Dating (9/10), Shopping (8/10), Video on Demand (8/10), Food and Drink (8/10), Entertainment (8/10), Online Travel Agency (7/10), Music and Video (7/10), and Cryptocurrency (7/10).

Table 2. Reachability status of 10 most downloaded apps worldwide in different categories for Iranians (September 2021)

Category	Available apps	Unavailability due to Iranian filtering system	Unavailability due to U.S. sanctions on Iranians	Unavailability due to both factors
Education	8	0	2	0
Communication	7	2	1	0
Health and fitness	6	0	4	0
Games	5	0	4	1
Mental health	5	0	5	0
Top 10 to	3	3	1	3
Social network	3	2	2	3
Cryptocurrency	3	0	7	0
Music and video	3	0	7	0
Online travel agency	3	0	7	0
Entertainment	2	1	4	3
Food and drink	2	0	8	0
Video on demand	2	0	5	3
Shopping	1	1	7	1
Dating	0	1	2	7
Banking	0	0	10	0
Remittance	0	0	10	0

Note: Data is from Apptopia (2021), café Bazaar (2021), Charkhooneh (2021), Farsroid (2021), Myket (2021), Shecan (2021), Sibche (2021).

Table 3. Reachability status of the major mobile applications in Iran (September 7, 2021)

Application	Status
Amazon	Available in Iranian stores, unavailable in Google Play for the Iranians
Booking.com	Available in Iranian stores and Google Play
Calm	Available in Iranian stores, unavailable in Google Play for the Iranians
Coinbase	Available in Iranian stores, unavailable in Google Play for the Iranians
Facebook	Available in Google Play, filtered in Iranian stores
Google Meet	Available in Iranian stores and Google Play
Instagram	Available in Iranian stores and Google Play
Messenger	Available in Google Play, filtered in Iranian stores
Mi Fit	Available in Iranian stores and Google Play
MX TakaTak	Available in Iranian stores, unavailable in Google Play for the Iranians
PayPal	Available in Iranian stores, unavailable in Google Play for the Iranians
Snapchat	Filtered in Iranian stores and unavailable in Google Play for the Iranians
Telegram	Available in Google Play, filtered in Iranian stores
Tinder	Filtered in Iranian stores and unavailable in Google Play for the Iranians
Uber Eats	Available in Iranian stores, unavailable in Google Play for the Iranians
WeChat	Available in Iranian stores and Google Play
Among Us!	Available in Iranian stores and Google Play
BIGO live	Available in Google Play, filtered in Iranian stores
Chime	Available in Iranian stores, unavailable in Google Play for the Iranians
Discord	Available in Iranian stores and Google Play
Google Classroom	Available in Iranian stores, unavailable in Google Play for the Iranians
imo	Available in Iranian stores and Google Play
Josh Videos	Available in Iranian stores and Google Play
Microsoft Teams	Available in Iranian stores and Google Play
Moj	Available in Iranian stores and Google Play, but the app features is inaccessible to users with Iranian IP or phone number
Netflix	Filtered in Iran and the app features is inaccessible to users with Iranian IP or phone number
Pinterest	Available in Iranian stores and Google Play
Spotify	Available in Iranian stores and Google Play
TikTok	Filtered in Iranian stores and unavailable in Google Play for the Iranians
Twitter	Filtered in Iranian stores and unavailable in Google Play for the Iranians
WhatsApp	Available in Iranian stores and Google Play
Zoom	Available in Iranian stores, unavailable in Google Play for the Iranians

Note: Data is from Apptopia (2021), Café Bazaar (2021), Charkhooneh (2021), Farsroid (2021), Myket (2021), Shecan (2021), Sibche (2021).

Temporary Restrictions

Iran had never experienced any Internet shutdown or blockage of services under critical conditions before 2017. Even during the violent protests in Tehran following the 2009 presidential election, the then-administration of president Ahmadinejad who was considered to be less liberal than his successor, President Rouhani, never shut the Internet down. In general, such restrictions had never been imposed during, before, or after any political process such as elections. However, during the two violent protests in 2017 and 2019, such restrictions were imposed by the Supreme National Security Council, under the Rouhani administration (Table 4).

These developments coincided with Donald Trump being elected as U.S. president and the beginning of a new wave of anti-Iran measures by the United States to destroy the Iran nuclear deal under the 'maximum pressure' campaign, using 'tough' and 'harsh' economic sanctions. An essential element of the U.S. policy in this regard is to cause intense economic restrictions sufficient to fuel chaos in Iran, intended mainly to topple the regime (Katzman, 2019). According to a senior U.S. intelligence official, by harming Iran's civilian economy, these sanctions 'will create hate and public discontent at the street level' leading to the overthrow of the Iranian regime (DeYoung & Wilson, 2012). In this context, U.S. governments see the Internet and social media platforms as 'crucial to bringing about regime change in Iran' (Aday et al., 2010).

The first series of protests from December 2017 to January 2018, i.e., the initial economic protests and then subsequent riots, led to blocking Internet access from mobile networks in some areas of the country and a temporary ban on Instagram and Telegram (Fars News Agency, 2018). Indeed, the government deemed it necessary to impose such restrictions to end the riots considered to be mostly coordinated through the Internet and social networks. A few months later, it put a permanent ban on Telegram as this platform refused to cooperate with Iran in removing channels breeding violence and terrorism (BBC Persian, 2018; ISNA, 2018).

However, during the second series of protests in November 2019, triggered by the government's decision to raise gas prices, a nationwide Internet shutdown was pursued as it was impossible to control the violent protests and subsequent riots in the suburbs of large cities due to previous experiences gained in bypassing the restrictions via VPN (IRNA, 2019). During this unprecedented Internet blackout which lasted for a week, the Internet could not be accessed, but the Iranian users were provided access to the National Information Network (National

Internet) which operates through local hosts and services to gain access to domestic applications and websites.

This was the first time the government used the so-called National Internet as a substitute for the global network. The unprecedented decision finds even greater prominence when one is reminded that President Rouhani was elected by making liberal campaign promises, pledging 'not to pursue the filtering of social media networks' and 'to never push the filtering button'. Ultimately, however, he reached a point to order complete Internet shut-down for a week, publicly stating: 'I hope we will be able to strengthen and develop the National Internet so much that the people will no longer need the foreign platforms' (Rouhani, 2019). Thus, what happened showed that the United States maximum pressure campaign, which, as the U.S. officials admit, has not achieved its goal to change the Iranian regime or its behavior (Pompeo, 2020), has effectively resulted in increasing domestic restrictions on the Internet.

Table 4. History of temporary Internet blockages and shutdowns in Iran

Background	Restrictions	Duration	Extent
2017–2018 protests and riots	Blocking Telegram	7 Days (Dec 31 - Jan 6)	Nationwide
	Blocking Instagram	14 Days (Dec 31 - Jan 13)	Nationwide
	Blocking Internet access from mobile networks	Precisely Unknown (During street riots)	Some districts of Mashhad, Tehran, and other cities
2019 protests and riots	Shutting down the global network	8 Days (Nov 16-23)	Nationwide

Note: Data from Al Jazeera (2017), CBC News (2018), Fars News Agency (2018), IRNA (2019).

Current Filtering Policy
In theory, describing the different components of Iran's filtering regime and its records may have demonstrated that we face a somewhat zero-tolerance policy. However, another side of the coin, which is more

important, is examining the way in which the regulations associated with filtering are implemented in practice. A careful look at the status quo shows that:

- Iranian people widely employ various methods to gain access to the filtered websites and services. According to an official report, about 10 to 12 million users bypass the filtering regime by solely using VPN (Hadianfar, 2018). Also, the latest survey shows that in July 2021, nearly 40% of the users in Iran were still active on Telegram, a figure hitting 62% before putting a permanent ban on this platform (ISPA, 2017; 2021b).
- The large number of restrictions on paper has made it difficult to completely implement a filtering system and as a result, the government is not seeking to crack down on the VPNs, the use of which has not been banned officially by law (Azari Jahromi, 2019).
- Bypassing the filtering regime is not socially frowned upon as, in addition to ordinary people, many senior officials such as the Supreme Leader Office, the president, government ministers, and members of the parliament are publicly active on blocked social media like Twitter.
- Social platforms like Instagram and WhatsApp are completely accessible while the illegal materials on these platforms are impossible to block due to technical reasons.

Considering the points mentioned above, it can be understood that Iran's filtering regime is being minimally implemented in practice. This policy of leniency indicates that following the expansion of the Internet in the country and, in turn, the Internet having been established in the social lives of the people, the government has moved away from strict enforcement of previous regulations and has come to terms with the fact that the Iranian users go beyond the official access provided. Although the current policy gives rise to the undermining of the rule of law in the country, it will prevent the exacerbation of the problem. Therefore, at least, the demand for Internet freedom cannot fuel the dissatisfaction of the public. In addition, the government still has been able, to some extent, to keep the Internet threats under control by maintaining the filtering regime.

Conclusion

This study aimed to provide an overview of the status quo of Internet censorship in Iran, and to contribute to the existing literature by presenting an inside look. Based on the link between Islam and modernity, the Islamic Revolution's ideology has defined freedom along

with human responsibility before God within an Islamic framework. Therefore, the way Iran looks at the Internet includes a two-dimensional approach that simultaneously comprises 'development' and 'protection against threats', the latter being done through filtering inappropriate content. Specifically, Iran tries to filter the following materials: adult content, dating services, western entertainments contradicting the religious values in Iran, social media platforms failing to adhere not only to Iranian law but also to their own rules toward Iran, and propaganda of foreign Persian-speaking media outlets such as British and Saudi channels of BBC and Iran International (launched to bring about foreign-imposed regime change). This study has indicated that, although the extent of filtering in Iran may be considerable for various reasons, Internet freedom does not seem to be in a dire situation given the appreciable access provided by the government, plus the vast use of VPN and proxies which are not legally banned. This is the result of adopting the current lenient policy by the government.

The study indicated that an understanding of the context and the factors contributing to Internet censorship in Iran can provide more insight into the big picture of the situation. As it was clarified, foreign factors, in addition to domestic factors, can complicate the situation leading to intensified censorship. These factors include the lack of cooperation on the part of international companies with the Iranian government to enforce the rule of law and combat terrorist threats as well as the constant threats aimed at regime change, especially those made by the U.S. government. These factors have led to the justification of Internet censorship as a defense against foreign threats in the country. In fact, our investigation suggests that when it comes to national security, Iran does not hesitate to protect its security and national interests by temporally shutting down global services. Further research should be undertaken to explore how foreign involvement affects Internet freedom.

Additionally, the findings reported in this paper shed light on new types of censorship faced by Internet users in Iran. The results show that Internet freedom has been overshadowed both by domestic restrictions and those imposed on the international level. As discussed earlier, U.S. sanctions against Iran, in particular, have resulted in insufficient access to a considerable part of the Internet. Surprisingly, the findings of this study revealed that the range and extent of restrictions imposed on the Iranians' access to mobile applications by the U.S. are significantly more than those placed by the Iranian filtering regime. Our research shows that the United States has denied Iranian people access to 62.8% of the most downloaded apps worldwide, while the share of the Iranian government in restricting

them is only 18.1%. This caused the Iranians don't access the Internet the other nations do. Once again, this is an indication that the U.S. sanctions inflict collective punishment on ordinary people. A further study with more focus on the censorship imposed by the United States is therefore suggested.

Ultimately, our study provided a unique opportunity to enhance the global understanding of Iran's current policy on Internet freedom, especially if we consider that Iran may change its policy following the transfer of presidential power from Hassan Rouhani to Ebrahim Raisi. Presently, a new bill to regulate the Internet is now being prepared by the lawmakers in the parliament, titled 'Legislation to Protect Cyberspace Users' (aka Protection Bill). It seems that Iran's current lenient policy may be subject to change as a consequence of the U.S. sanctions which have deprived Iran of critical cooperation with global technology companies in order to enforce the rule of law and combat security threats, and also as an outcome of the way in which the United States has been using the Internet as a weapon to bring regime change in Iran. Apparently, the more the U.S. harm the basic characteristics of the Internet such as accessibility and its global nature, the more Iran may develop its own National Internet. Taken together, this paper has provided insight into future developments in the field.

Ethical considerations
The authors have completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc.

Conflicts of interests
The authors declare that there is no conflict of interests.

Data availability
The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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