Armenia: State of Affairs report

1. Country Snapshot

1.1 Internet Freedom State of Affairs

Armenia is among the leaders in the CIS region in terms of Internet freedom, and is regularly ranked "free" by the Freedom on the Net Index by Freedom House. The online space of Armenia continues to enable strong civic participation and digital activism, as well as, despite increasing encroachments on press freedom, relatively unhindered freedom of speech. The country has achieved a good combination of legal frameworks and practice safeguarding unchecked use of mass surveillance, censorship and blocking of content, while creating a favorable environment for development of e-government and the digital economy.

Despite geographical isolation and the impact of a longstanding military conflict with Azerbaijan, Armenia has a reliable connectivity infrastructure, with a high rate of mobile broadband penetration. The market environment for ISPs and mobile operators is competitive, with no monopolistic role of the legacy operator and an accountable, independent regulator with a multi-sector mandate.

1.2 Brief Country Data

Armenia is a semi-presidential republic in Southern Caucasus, with an area of over 29.7 thousand square kilometers. The country is mostly mountainous and geographically isolated as borders are closed with two of its four neighboring countries, Azerbaijan and Turkey, leaving Iran and Georgia. As of 2017, its population is just under 3 million,[1] which is a de jure figure, as up to 25% of the population is estimated to reside abroad.[2] 63% of the population lives in urban areas, and the absolute majority (98%) is ethnic Armenian.

The Armenian economy is highly dependent on Russia, with significant presence of Russian investors in some sectors such as energy and notable role of remittances from Russia. The links are growing stronger with membership of Armenia in the Russia-dominated Eurasian Economic Union since 2015. The composition of GDP is 51% services, 29% industry and 20% agriculture.[3] GDP of Armenia was $10.5 billion in 2016, representing a decline from the highs of $11.5 billion in 2014 and 2008.[4] The country's income level is lower middle income, according to World Bank's classification, with GNI per capita at $3760 in 2016.[5]

2. Access to Internet & Internet Services

2.1 Penetration

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[1]National Statistical Service of the Republic of Armenia, "Average de jure Population Number, thousand pers./ 2017" http://www.armstat.am/en/?nid=12&id=11001

[2] Compass Center Armenia and Friedrich- Ebert-Stiftung, "The Economic Situation in Armenia: Opportunities and Challenges in 2017", http://library.fes.de/pdf-files/bueros/georgien/13248.pdf

[3] CIA World Factbook, "Armenia", https://www.cia.gov/library/publications/the-world-factbook/geos/am.html

[4] Country data for Armenia, World Bank, available at: http://data.worldbank.org/country/armenia accessed on May 30, 2017.

[5] Ibid.

Considering its high share of urban population, Armenia has relatively high Internet penetration indicators in the post-Soviet space. By end of 2016, International Telecommunications Union (ITU) lists the percentage of individuals aged 6+, using Internet in Armenia to be 62%, up from 59% in 2015.[6] According to the country's National Statistical Service, by end of 2016, there were 2.4 million subscribers with access to Internet, including the mobile Internet connections,[7] which amounts to 80% penetration. However, according to reports of main operators by end of 2016, the number of fixed broadband subscriptions was just over 347 thousand.

These figures translate into an average position in rankings of fixed and mobile broadband. In the 2016 State of Broadband report by ITU, Armenia ranks 84th among 187 nations in the fixed broadband category, with just 9.58 subscriptions per 100 inhabitants.[8] The same report ranked Armenia 91st in the mobile broadband category, with 41.29 such subscriptions per 100 inhabitants.

2.2 Demographics of the Internet audience and its uses of Internet

The most recent study of the Armenian Internet audience was completed in early 2013 by the Internet Society of Armenia.[9] The study reveals interesting trends, most of which are likely to hold relevance a few years later as well.

According to the report, penetration of Internet varies depending on location – as might be expected, in the capital city of Yerevan penetration stood at 60.5%, against the 48% in the regions. Age groups also demonstrate notable variance. Penetration is highest among the Internet users within the age group 31-45 at 67% and lowest among the group 61 and older, at 41%. At the same time, the numerical distribution of users by age groups appears to be relatively even - 18-30 cohort represents 33% of respondents, while the 31-45 cohort constitutes 33.8%, and the 46-60 cohort another 22.8%. In line with trends in most countries, significant gender differences are apparent as well, with male users of Internet representing 56.5% of the respondents and female users representing 43.5%. In terms of educational attainment among the Internet users, 60% have higher education, while a small share (19.4%) has only the secondary education.

Based on the same study, uses of Internet accommodate a diverse range of needs, with highest frequencies of responses including news (66%), chats/messengers and social media (59%), music (57%) and e-mail (48%). Interestingly enough, blogs and forums (32%) are frequently mentioned, signifying an active online community.

2.3 Barriers to access

Armenia has few major barriers to access. Considering the high poverty headcount ratio at national poverty line (30% in 2014[10]), affordability and lack of access to enabling devices are likely to be a

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[6] International Telecommunications Union, "Percentage of individuals using Internet", https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx accessed on May 30, 2017.

[7] National Statistical Service of the Republic of Armenia, Armstatbank, "Telecommunications by indicators and years",
http://armstatbank.am/pxweb/en/ArmStatBank/ArmStatBank__4%20Transport%20and%20tourism__41%20Transport/TT-tr-19-2016.px/table/tableViewLayout2/?rxid=002cc9e9-1bc8-4ae6-aaa3-40c0e377450a

[8] ITU, "The State of Broadband 2016: Broadband Catalyzing Sustainable Development", http://www.itu.int/pub/S-POL-BROADBAND.17-2016

[9] Internet Society of Armenia, "Research on the Penetration and Uses of Internet in Armenia", 2013, https://www.isoc.am/publ/penetration_en.pdf

[10] Country data for Armenia, World Bank.

concern for poor income population groups. In the 2013 study of the Internet audience by the Internet Society of Armenia, affordability of Internet was cited as an underlying reason by 24% of respondents without access, while 27% pointed to lack of a computer and another 11% to lack of an enabling mobile device. Despite the rapid expansion of mobile networks, lack of infrastructure may be a substantial concern for some rural residents in less accessible mountainous locations. Lack of digital skills, potentially coupled with affordability is a likely barrier as well, especially for older age groups with lower penetration levels.

3. ICT Actors & Infrastructure

3.1 Fixed Communication
The fixed-line Internet market is responsible for a small share of Internet penetration in Armenia, delivered predominantly by wireless connections. The fixed-line market dominated by four major ISPs three of which are also the mobile providers. According to reports filed in the 4th quarter of 2016, Armentel (Beeline) has 143 035 subscribers,[11] followed by Ucom, which in 2013 acquired another market player, Orange Armenia, from France Telecom, with 83 630 subscribers.[12] K-Telecom (MTS), the dominant mobile operator, is also a major competitor on the market, but there is no publicly available information regarding its fixed line business. Another major ISP, which has been rapidly growing at the expense of its competitors, and nonetheless has no mobile play is GNC Alpha (Rostelecom), with 39 750 subscribers.[13] Small ISPs share a very small number of 8000 subscribers.

ADSL remains the most dominant type of fixed connections, available across Armenia with the exception of 150 villages that have no landline telephone network,[14] but faster fiber-optic connections are growing in popularity. Even though all major providers have made significant investments in rolling out nationwide fiber-optic networks, in reality fixed-line residential and corporate plans have been available mostly in Yerevan and several regional centers.

3.2 Mobile Connection
Three companies constitute the mobile market of Armenia, where penetration is about 114%, with a total number of subscriptions is at 3.4 million. According to reports filed in the 4th quarter of 2016, K-Telecom (MTS) leads the market with 61% share and over 2 million customers.[15] Armentel (Beeline) has another 25.6% with 0.88 million subscriptions,[16] and Ucom serves 13.4% of the market with 0.46 million customers.[17]

In terms of the mobile Internet market, according to the same 4th quarter reports, a similar sequence holds true. K-Telecom (MTS) dominates with a 73.5% share and reported 1.33 million customers with data plans. Armentel (Beeline) has a 22% market share, with almost 400 thousand subscribers, while Ucom's share is under 5%, with 83 thousand reported subscribers.

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[11] https://beeline.am/medias/sys_am/h3c/hfb/8809205956638.pdf
[12] https://www.ucom.am/file_manager/Ucom%20LLC_Fixed_4rd%20qrt%202016_N413Ն-sent.pdf
[13] https://www.rtarmenia.am/images/4th-quarter-16.pdf
[14] Enterprise Incubator Foundation, "Armenian ICT Sector 2015, State of the Industry Report", p. 15 http://www.eif.am/files/1958/Armenian-IT-Industry-Report-/2015-ICT-Industry-Report_eng.pdf
[15] https://www.mts.am/docs/default-source/psrc/psrc_report_rus.pdf
[16] https://beeline.am/medias/sys_am/hf0/hda/8809120563230.pdf
[17] https://www.ucom.am/file_manager/Ucom%20LLC_Mobile_4rd%20qrt%202016_N274Ն-sent.xlsx.pdf

All three companies offer broadband connectivity, including 4G services. The first 4G network was launched in 2010 by MTS, which reported in June 2017 that it provides access to 4G+ service to 52% of the country's population.[18] In 2016, Armentel (Beeline) launched its 4G network, while Ucom started offering 4G+ service. Most of the inhabited areas of the country are already covered with 3G and 2G service. The current license of Armentel (Beeline), the former national operator, includes an obligation to provide 100% mobile broadband coverage by end of 2017.

Armenian ISPs also offer wireless services (Wimax and Wifi), with about 250 thousand subscribers served in 2015.[19] Satellite Internet is available throughout Armenia, through both local and foreign companies, but remains a costly niche service used primarily by corporate customers.

3.3 International Communication

Armenia is connected externally only with Georgia and Iran. Five gateways link the country with Georgia and two with Iran.[20] The gateways with Iran are limited in capacity and used mostly as a backup option.[21] The gateways with Georgia enable Armenia to connect with Russian and European segments of Internet, through terrestrial connections and undersea routes in the Black Sea. There is no monopoly on international connections and almost all of the major ISPs mentioned above, as well as Fibernet Communications, the dominant wholesale traffic provider, have their own gateways.

4. Regulatory ICT Policy

4.1 Regulatory/governing bodies and standards (National & International)

The Ministry of Transport, Communications and Information Technology is the mandated body of the Armenian Government in the sphere of telecommunications, responsible for policy development, determining technical (certification) norms and setting the national table for allocation of the radio spectrum. **The Commission for Regulation of Public Services** is the regulator responsible for telecommunications services, issuing of licenses for telecommunications networks, permits for spectrum and numerical resources, as well as control of compliance with the sectoral legislation and protecting consumer interests. This body is multi-sectoral and also regulates energy, natural gas and water services. **The Republican Center for Telecommunications** is a state nonprofit entity with control functions over use of the radio spectrum resource. A multi-stakeholder **Council for Internet Governance**,[22] led by the deputy Minister of Transport, Communications and IT, functions since 2014, with support from the Internet Society of Armenia, which also administers the national .am domain.

5. Information Security, Data Protection and Privacy

5.1 Internet Infrastructure (susceptibility to cybercrime, terrorism, and attacks)

Considering the peculiar geographic situation of the country, dependent mostly on Georgia for access to global Internet, as well as the context of the continued standoff with Azerbaijan and the military conflict in Nagorno-Karabakh, the national infrastructure of Armenia is susceptible to both cyberattacks and physical disruption. Physical infrastructure is resilient within the country, but in 2011 a single physical

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[18] https://digital.report/viva-cell-mts-obespechit-dostup-k-4g-dlya-80-90-naseleniya-armenii-k-2020-godu/
[19] Enterprise Incubator Foundation, "Armenian ICT Sector 2015, State of the Industry Report", p. 15
[20] http://investinarmenia.am/ru/infrastructure-ru
[21] Freedom House, "Freedom on the Net 2016: Armenia", http://freedomhouse.org/report/freedom-net/2016/armenia
[22] http://itdsc.am

disruption involving a terrestrial cable in Georgia left the entire country without Internet for several hours.

The government, law enforcement and security agencies have sufficient institutional capacity to respond to information security threats. Armenia started forming its own military cyber units since 2014 and there are several active groups of civil hackers, who are alleged to conduct cyberattacks against targets in Azerbaijan and Turkey. Since 2007, Armenia has a National Computer Emergency Response Team (CERT-AM), maintained by the Internet Society of Armenia.[23] However, Armenia ranked globally 111th (out of 165 countries) in the 2017 Global Cybersecurity Index, which measures the level of commitment to cybersecurity, behind all of its CIS neighbors except for Turkmenistan.[24]

5.2 Types of attacks, actors, and those targeted

The patterns of cyberattacks in Armenia cannot be complete without considering its long history of cyberwar with Azerbaijan and Turkey. Government targets in Armenia, mostly official websites and social media accounts are frequently attacked, allegedly by both government and activist groups in Azerbaijan and Turkey. Most recently, in April 2016, against the background of the hostilities in Nagorno Karabakh, several Armenian government websites experienced attacks, thought to be delivered by the Azerbaijani and Turkish groups.[25] At the same time, Armenian cyber activists are also able to carry out similar attacks against outside targets. In some cases, their powers have turned inwards - in summer 2015, Armenian cyber activists attacked the official website Armenian police, as a retribution for violent dispersal of civilian protests in Yerevan by police.[26]

With a relatively developed ICT environment and associated human capital, Armenia is also a source country for global information security threats. In early 2017, Armenian security officers arrested three cybercriminals, responsible for illegal transactions in Armenia, using credit card information and bank accounts of Australian victims.[27]

Non-government targets, including common citizens are also exposed to attacks. According to findings of the Kaspersky Laboratory, in 2016, a third of Internet users in Armenia experienced cyberattacks.[28] As estimated by another security company Cybergates, in the past 6 years, more than 4 thousand websites in the .am zone were breached.[29] In August 2016, there were frequent reports by Armenian users of ransomware in Armenian language, purporting to be an official police message, imposing a fine, payable online.[30]

5.3 Government surveillance

Even though its law enforcement agencies and security services have the technical equipment, capacity and expertise for interception of communication, Armenia does not have a reputation for mass surveillance of its citizens. By law, surveillance can be carried out only with a court warrant, with

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[23] www.cert.am
[24] ITU, Global CyberSecurity Index 2017, https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-GCI.01-2017-PDF-E.pdf accessed July 4, 2017
[25] https://digital.report/karabah-itogi-kibervoynyi/
[26] https://digital.report/istoriya-armyanskogo-hakerstva-chast-v-2013-nashi-dni-byit-hakerom-modno/
[27] https://digital.report/snb-armenii-poymala-kibermoshennikov-ukravshih-177-tyis-dollarov-ssha/
[28] https://digital.report/pochemu-novyiy-proekt-kontseptsii-kiberbezopasnosti-armenii-pishut-ekspertyi-a-ne-chinovniki/
[29] Ibid.
[30] https://digital.report/v-armyanskom-internete-poyavilsya-virus/

exceptions allowed, with informing of the court, only in case of an imminent threat to national security and military, environmental interests, or the need to avert terrorist attacks. The operators are required to cooperate with relevant government requests for surveillance and interception.

6: Legal Overview

6.1 Current Laws
At the highest level of national strategic frameworks in Armenia is the Strategic Program of Prospective Development of Armenia for the years 2014-2025. Adopted in 2013, the document includes among other development priorities the goals of promoting e-governance and supporting the growth of the Armenian IT-sector. The Program also informs other strategic documents of lower hierarchy, such as the Concept for Introduction of E-Government, approved in 2014. More specifically on regulation of Internet, an earlier Concept for Development of the Sphere of ICT, adopted in 2008 covers the period until 2018 and is a core strategic document that identifies main priorities, such as development of the ICT infrastructure and e-governance, advancement of ICT skills among the general population and development of digital economy. In particular, the document supports investment in the national broadband networks, provision of access to affordable Internet, improvements in the rate of computer ownership and provision of universal telecommunications services.

In terms of the legislative frameworks, Armenia has a history of adopting and continually improving relatively progressive legislation. The Law on Electronic Communications passed in 2005 determines the general legal basis for provision of telecommunications services in Armenia and is much more detailed compared to other sectoral laws in Armenia, in that it includes detailed regulatory, licensing and technical frameworks. The Law on Commission for Regulation of Public Services, adopted in 2003 sets the mandate for the Commission for Regulation of Public Services as the sectoral regulator. The Law on Mass Media also adopted in 2003 sets out common regulation principles for all types of media, including online media.

6.2 Litigation
Taking into account that Armenia is among the leaders in the CIS region in terms of Internet freedom, there have been no recent cases of public interest litigation seeking to uphold Internet freedom. There are also very few cases in which the government has taken citizens to court on charges with Internet-related circumstances. In 2015, Armenian police sued the authors of the Armenian Youtube channel SOS TV for insulting police and seeking $4200 in damages.[31] In 2014, the Special Investigative Service sued the news portal ilur.am for not disclosing confidential sources in connection to a report that "accused a senior Armenian police officer of assaulting two men."[32] The charges were dropped in 2015 by a Constitutional Court decision that upheld the rights of journalists.

6.3 Recent legislative initiatives
Recent legislative initiatives in Armenia related to Internet freedom are typically the stories of positive developments. In 2015, Armenia adopted the Law on Personal Data, which established and strengthened the legal ground for privacy of personal data, safe handling of personal data by government entities, and created the Agency for Protection of Personal Data, with a mandate to appeal to government entities violating the legal norms on personal data.

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[31] Freedom House, "Freedom on the Net 2016: Armenia", http://freedomhouse.org/report/freedom-net/2016/armenia
[32] Ibid.

In July 2016, Armenia passed a package of amendments to several laws and the Civil Code supporting development of e-commerce, removal of existing barriers and improving the protections for consumers, who make online purchases.[33] In September 2016, Armenia adopted amendments to its licensing legislation, intended to expand regulation of online casinos.

Since early 2016, two different groups have worked on drafting the Concept for Cybersecurity, one led by the Armenian expert community, which first presented its draft in February 2017 and another led by parliamentarians. The latter group is said to have drafted a document with excessive security focus.

6.4 Limitations and opportunities for advancing Internet freedom through legal means
Armenia has in general a favorable environment for Internet freedom advocacy through legal means. Key decision-making bodies maintain an open and collaborative stance to sectoral advocates. Civil society remains a vibrant, dynamic force shaping the public policy discourse. In some thematic areas, such as media freedom and access to information, there are cases when civil society groups (such as the Freedom of Information Center of Armenia[34]) have taken government bodies to court. The country's media landscape is perceived to be strongly influenced by political and commercial interests, and self-censorship is reported to be growing, but independent outlets are vocal, especially in the online space. However, the judicial branch of power is seen as suffering from corruption and experiencing undue influence from political forces.[35] At the same time, in light of availability and efficacy of other alternatives to litigation as an instrument of change, it may often be the case that litigation should be used as measure of last resort.

7. Information Campaigns and Internet Activism

7.1 Advocacy work on IF
   o   Topics of activism, activist networks and campaign
   o   Mediums: social media, journalism, blogs, etc

As the online environment remains generally an unrestricted space in Armenia, the overall level of activism related to Internet freedom is low. In recent years there have been no campaigns or activist mobilization specifically around Internet freedom items of the public agenda. However, such organizations as the Internet Society of Armenia and the Union of IT Enterprises are active in shaping the content and quality of deliberations on governance of Internet and the telecommunications sector. Civil society organizations intervene as they find appropriate entry points. Media organizations and watchdogs, such as the Yerevan Press Club,[36] Committee for Protection of Freedom of Speech,[37] play an active role and monitor the environment for media outlets, including online publications. All of the traditional and emerging mediums for advocacy are available and are extensively used. For instance, in April 2017, IT experts and civil society organizations, including the cybersecurity expert Samvel Martirosyan and the Union of Informed Citizens responded in interviews and press-briefings to

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[33] https://digital.report/ict-index-2016-4/
[34] http://www.foi.am/en/cases-overview/
[35] Freedom House, "Freedom in the World 2016: Armenia", https://freedomhouse.org/report/freedom-world/2016/armenia
[36] http://ypc.am/mission/
[37] http://khosq.am/en/

publication of voter rolls with personal details by the Central Election Commission of Armenia, stating that the measure creates a security risk for voters.

7.2 Government Response
The authorities in Armenia are seen as eager counterparts in terms of partnerships and collaboration with the telecommunications sector, civil society and expert community. The government maintains an open stance for policy proposals coming from the stakeholders, with some of the recent examples including the package of amendments on e-commerce in 2016 and the 2014 Law on State Support to the IT Sphere, providing a special tax regime for IT startups, both of which were initiated by the industry. The multi-stakeholder Council for Internet Governance under the Government of the Republic of Armenia, chaired by the deputy Minister of Transport, Communications and IT, is a key platform for such dialogue, enabling working and expert groups on a variety of aspects of national Internet governance.

7.3 Opportunities for additional/alternative advocacy
As of early 2017, some of the major advocacy priorities lie in the area of identifying the right balance between national information security objectives and individual rights and freedoms of Armenian citizens. For instance, the draft Concept for Cybersecurity, developed by the parliamentary committee for national security and defense in 2016 appears to seek excessive control on information and network systems and build a framework for unfettered access of state bodies to such systems. This prompted the initiative by a group of independent experts to develop an alternative Concept, which takes a moderate approach and requires additional support for advocacy. This is especially important given the expectation that the Armenian government will respond to the low ranking of Armenia in ITU's Global Cybersecurity Index, which measures level of commitment to addressing cybersecurity issues.