

MEDIA INFLUENCE MATRIX: ISRAEL

TECHNOLOGY, PUBLIC SPHERE AND JOURNALISM

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Israel is holding on to its branded self-image of a “high tech nation” but the justifications for that regarding the telecommunications field are slightly outdated. In recent years corporate losses deepened, cash flows were negative, competition intensified, and the industry’s regulator, the Ministry of Communications (MOC), kept making serious mistakes by letting Israel lag behind global infrastructure innovations. This has to do partly with the complicated and unstable political structure: two transitional governments and five different ministers who headed the MOC within merely four years (February 2017 to the coming elections in March 2021).

Although internet penetration rate in Israel stands at 88%, internet infrastructure, and notably the roll-out of fiber-optics, was not properly regulated until December 2020. Therefore, among other things, Israel’s internet speed was in decline in comparison to OECD countries, although it is expected to rise in mid-2021. Moreover, frequencies for 5G network deployment have been allocated only as late as August 2020, in significant delay compared to technologically progressed countries.

Following global trends, Israelis draw on different technological means to use the internet, and especially to consume media. While fixed telephony demand is in decline, smartphones took over the market with 88% of smartphone ownership.

Israel records a specific digital divide among marginalized groups like the Arab population and ultra-Orthodox (Haredi) Jews. Together with the 65+ age group, these three main sectors are susceptible to be affected by digital illiteracy.

The international technology conglomerates that control the Israeli market are Facebook (with its daughter company WhatsApp) in the field of messaging applications and social media, and Google Chrome browser, while the operating system (OS) market is dominated by Microsoft (on desktop) and Google (Android on mobile). The four main Israeli groups operating in the communications market are: Bezeq, HOT, Cellcom and Partner. They are all active in five telecom segments and market them in bundle packages for relatively low prices: cellular, fixed (telephony and internet) infrastructure, internet providing, international calls and multichannel TV. This highly saturated and competitive market has damaged the revenues and future incentives of these companies to invest in cutting-edge infrastructure.

Israelis get most of their political information from online news sites. Some 76% of the public in Israel consume news content on social media at least once a day (40% of Jews and 66% of Arabs). The leading social media platforms are YouTube, Facebook and Twitter; they make a central source for the dissemination of politics, and have significant power in shaping public opinion. Nevertheless, “fake news” is also circulating fast and efficiently on these platforms, making disinformation a troubling phenomenon for Israeli society. Few journalistic initiatives took upon themselves the responsibility for public fact-checking.

Traditional media struggles with fragile financial sustainability and business models. Given the populist effect that fake news has on consumers and, consequentially, on revenues, it is risky to rely on traditional media solely, in this matter.

TECHNOLOGY OVERVIEW

Following global trends, Israelis draw on different technological means to use the internet, and especially to consume media. While the good old fixed telephony demand is in decline, smartphones took over the market with 88% of smartphone ownership.[1] Internet use among the Israeli population also stands at 88% (similar to the U.S. rate).[2]

The technology conglomerates that control the Israeli market are Facebook (social media) and Google Chrome (browser market) while the operating system (OS) market is ruled by Microsoft (on desktop) and Google (Android on mobile).

Israel is holding on to its marketed image of a technologically advanced high-tech nation but in fact it lags behind global trends. Despite price and service competitiveness in mobile and internet market offers, Israel's internet speed is in decline in comparison to OECD countries. Moreover, Israel faces a specific digital divide among minority groups such as the Arab citizens and Orthodox Jews. Together with 65+ age group, these three main groups are the most affected by digital illiteracy.

Fixed telephony usage in Israel is seeing a steady decline. From 76.4% of the households owning at least one landline in 2013, the share of households with landlines decreased to 56% in 2018.[3] Bezeq Telecommunication started operating in 1984 as a government monopoly. Being the sole player in the landline infrastructure deployment market, in colloquial Hebrew, the word "Bezeq" became almost synonymous with the word "telephone." Although it is still the largest Israeli company in the field of landline communications, the growing competition in the telephony industry has eroded its monopoly, and made landline phone in many households redundant.[4] Until recently[5] Bezeq was committed to universal coverage, namely, to reach every home in Israel, be it at the center or the periphery.[6]

Mobile communications in Israel appeared in the market around 1985, when Motorola-Tadiran received the first license to provide cellular phone services and established together Pelephone, the first mobile operator company in Israel.[7] The technology was analog, which made for a very inefficient use of the allocated frequencies. The number of base stations required to

[1] "Internet use is a prevalent part of many people's lives across the globe," Pew Research Center, 1 April 2020, available online at https://www.pewresearch.org/fact-tank/2020/04/02/8-charts-on-internet-use-around-the-world-as-countries-grapple-with-covid-19/ft_2020-04-02_globalinternet_01/ (accessed 26 April 2020).

[2] Jacob Poushter, Caldwell Bishop, Hanyu Chwe, "1. Across 39 countries, three-quarters say they use the internet," Pew Research center, 19 June 2018, available online at <https://www.pewresearch.org/global/2018/06/19/across-39-countries-three-quarters-say-they-use-the-internet/> (accessed 26 April 2020).

[3] The Israeli Central Bureau of Statistic (CBS) last measurement was made in 2018 and was published in the Statistical Abstract of Israel 2020.

[4] Israel Fischer, "טלפון קווי, המחאות נוסעים ועוד 5 דברים שחשבנו שאנו לא יכולים בלעדיהם" (Landline, Travelers' checks and another 5 things we thought we cannot do without), The Marker, 8 October 2019, available (in Hebrew) at: <https://www.themarker.com/allnews/.premium-1.7951632> (accessed 15 April 2020).

[5] See MOC spokesperson's office announcement from 22 December 2020: <https://www.gov.il/en/departments/news/22122020>

[6] Botosh, Goldsmith and Eisenkot, תועלות כלכליות וכלי מדיניות - תועלות כלכליות וכלי מדיניות (Fiber-based Internet infrastructures and the 5G - economic benefits and policy tools), The Knesset Research and Information Center, 13 July 2020 available (in Hebrew) https://fs.knesset.gov.il/globaldocs/MMM/c7545c47-829e-ea11-8114-00155d0af32a/2_c7545c47-829e-ea11-8114-00155d0af32a_11_16218.pdf (accessed 27 July 2020).

[7] Supreme Court Civil Appeal 7958/10 Pelephone Vs. The State of Israel. See (in Hebrew): <https://supremedecisions.court.gov.il/Home/Download?path=HebrewVerdicts\10\580\079\t04&fileName=10079580.t04&type=4> (accessed 20 June 2020).

support the network was low, but the transmission was at high intensity compared to what is common for example in GSM (2G), which was introduced in 1999. It took a while until 4G networks were deployed, around 2014. None of the existing mobile companies today has yet fully deployed 4G networks in Israel. In fact, one of the best kept secrets in the mobile telephony industry in Israel is the overall coverage.[8]

According to CBS data, in 2018, there were about 10 million mobile subscribers in Israel, a country with a population of 8.9 million.[9] More and more decision-makers argue that the Israeli mobile market has reached too high a level of competitiveness (see Technology Companies and Government in this chapter). The data that most reflect this tendency is mobile portability, which is the rate of customers who migrate between companies at a given time. During 2018, some 40% of the mobile telephony customers in Israel changed providers, which meant four million crossings between companies. Every such move eroded the companies' revenue, not only because the competitor's price was lower, but because there are significant additional costs around customer acquisition, such as paying a commission to the marketer who recruited the customer.[10]

Thus in 2018, all mobile operators recorded a loss. None of them managed to raise the monthly revenue per user (ARPU), and the companies' shares plunged.[11] The consequence of this trend was a reduction in the companies' further investments in infrastructure. In turn, Israel lags behind global trends.[12]

Since the cellular market was reformed in 2011 with the aim of promoting provider transparency and competitiveness, consumer prices fell by about 50% between 2011 and 2017. In the first quarter of 2018, the moderate erosion tendency in ARPU continued (except Cellcom that went slightly up due to rising of prices). The price of mobile phone subscriptions is low on average relatively to other countries, ranging from €6 to €12.5 a month (and was also rather low even before the reform).[13]

The minimal package includes unlimited minutes for calls, up to 3,000 SMS, and free internet up to 50 GB, given a minimum of two years of subscription. The use of pre-paid SIM cards has a minimal cost of around €6.5 a month for either 1,000 minutes, 1,000 texts and 1 GB data (limited for two days), or 5GB of internet use solely (limited for 14 days).

This low pricing system creates an anomaly in the market. Some of the players with long-term goals plan to enter the 5G market in due time. Thus, their pricing must incorporate the necessary costs for future infrastructure investments. Other companies, on the contrary, are satisfied with operating on 4G only and are thus able to price their services much lower, based only on the current market situation. This anomaly creates a troubling situation whereby the big strategic players are undermined by smaller players and they find it difficult to finance future investments.[14]

[8] Guy Levy, "דור הולך ודור בא: האבולוציה של האינטרנט הסלולרי" (Generation comes and goes: the Cellular Internet Evolution), Ynet, 13 May 2017, available (in Hebrew) at: <https://www.ynet.co.il/articles/0.7340,L-4961254,00.html> (accessed 23 June 2020).

[9] Population at end of 2018, published on CBS's yearly Abstract for 2020.

[10] Nati Toker, "הפתרון לטלטלה בשוק הסלולר - ומה יקרה למחר שאנו משלמים?" (The solution to the upheaval in the cellular market - and what will happen to the price we pay?), The Marker, 28 April 2019, available (in Hebrew) at <https://www.themarket.com/advertising/premium-1.7170203> (accessed 2 September 2020).

[11] Nati Toker, The solution to the upheaval in the cellular market..., *cit.*

[12] See: The Heth Academic Center for Research of Competition and Regulation, COLMAN: "Reform in the Israeli cellular Market," May 2019 available (in Hebrew) at https://www.colman.ac.il/sites/default/files/refora_20.5.pdf (accessed 2 September 2020).

[13] The Heth Academic Center for Research of Competition and Regulation, *cit.*

[14] Nati Toker, The solution to the upheaval in the cellular market..., *cit.*

A mobile revolution

Overview of telephony penetration in Israel, 2013-2018

Indicator	2013	2014	2015	2016	2017	2018*
Minimum one fixed telephone line subscription (percentage of total households)	76.4	72.9	69.2	65	62.1	56
Ownership of at least one mobile phone (percentage of total households)	95.2	96.1	96.9	97.1	97.3	97.9

*The last CBS 2020 abstract is recording data collected in 2018.
Source: Israel Central Bureau of Statistics (CBS) Yearly Abstracts

The “High Tech Nation” image, attached to Israel since the 1990s for its technological innovation and progress, seems to lose its grounding. According to the latest data, it appears that since the beginning of 2019, customers in Israel experience a decrease in internet speed. Moreover, the new COVID-19 crisis also showed that the existing broadband simply does not withstand the load. The Corona lockdowns revealed major failures in the communications market. Entire sectors that required communication services were unable to receive them. There was no broadband connectivity in the city of Elad and other ultra-Orthodox neighborhoods, for example. The problem was so serious that the State of Israel had to ask YouTube and Netflix during the closure to reduce broadcast quality, to avoid server collapse.[15]

The average mobile browsing speed in Israel in March 2020, at the tide of the “corona closure” according to SpeedTest (OOKla), was 19.17 Mbps for download, and 10.19 Mbps for upload (which ranked as low as 96 in the world). For fixed broadband it was 82.01 Mbps for download and 17.67 Mbps for upload (ranked 37 in the world). For the sake of comparison, in October 2020 Israel’s rank went up thanks to less massive use between lockdowns (ranked 86 in mobile broadband and 32 in fixed).[16] Aside from the irregular relative increases, Israel experiences an ongoing and significant downfall since 2016.[17]

In general, Israel internet connectivity tends to follow the EU average penetration rate, which is fairly high. In 2017, individuals’ connectivity rate had even slightly surpassed the European average, but in the realm of households, EU connectivity was higher by 6.5 p.p.

[15] Hila Wiesberg, Gad Peretz, "4000 לתיק ואיך זה קשור לתיק 4000?" (Why the Internet in Israel is so slow and how it relates to the “4000” Case?) Globes, 17 July 2020, available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001336178> (accessed 13 October 2020).

[16] See: <https://www.speedtest.net/global-index/israel#mobile> (accessed 5 November 2020).

[17] See: "הטבלה לא משקרת" (The chart does not lie: surfing speed in Israel is declining), People and Computers, <https://www.pc.co.il/featured/303713/> (in Hebrew), accessed 1 December 2020. That should take into account the fact that in early 2016 OpenSignal ranked Israel fourth in the world in 4G mobile Internet speed, and in 2011 even ranked Pelephone as the world’s fastest mobile network in iPhone browsing. In 2016 Akamai Internet Connectivity Report recorded that page load time in Israel was the lowest at 1364 milliseconds, which ranked it first in the world, while loading time of a mobile page took 937 milliseconds, ranking Israel second in world back then. (See Israel Internet Association report 31 December 2016: available (in Hebrew) at <https://www.isoc.org.il/sts-data/22344> (accessed 5 October 2020).

Internet penetration and usage in Israel, 2013-2019

	2013	2014	2015	2016	2017	2018	2018
Percentage of individuals using the internet in Israel (%)	70.2	75	77.3	79.7	81.6	83.7	83.7
Percentage of individuals using the internet in EU	71.6	73.2	75.7	79.7	81.5	82.8	82.8
No of households with internet connection in Israel (% of total)	70.6	72.1	74.3	75.4	74.1	74.9	n/a
No of households with internet connection (% of total) in EU	73.3	75.5	77.8	79.1	80.6	n/a	n/a

n/a: not available

Source: CMDS, Eurostat, World Bank and Israeli CBS

Despite the similarity between Israel and OECD average in the general trends of internet use, data regarding mobile broadband subscription rate (MBS) point to some differences. In 2013 Israel MBS connectivity met the OECD average, but fell significantly in the following years. It was only during 2019 when it hit and surpassed OECD's average again. Since 2017 Israel made a leap of almost 58% in mobile broadband subscription rate, thus exceeding OECD average by 14.7% in early 2020.

Broadband connectivity in Israel, 2013-2019

	2013	2014	2015	2016	2017	2018	2019
Fixed broadband subscription total in Israel (%)	25.1	25.3	25.9	26.5	27.6	27.4	27.4
Fixed broadband subscription total OECD (%)	26.7	27.5	28.5	29.4	30.3	31	31.8
Mobile broadband subscription, total in Israel (%)	68.5	68	68.2	68.9	71.2	100	129.3
Mobile broadband subscription, total OECD (%)	70.3	79.8	88.8	96.9	102.4	109.9	114.6

Source: CMDS, OECD

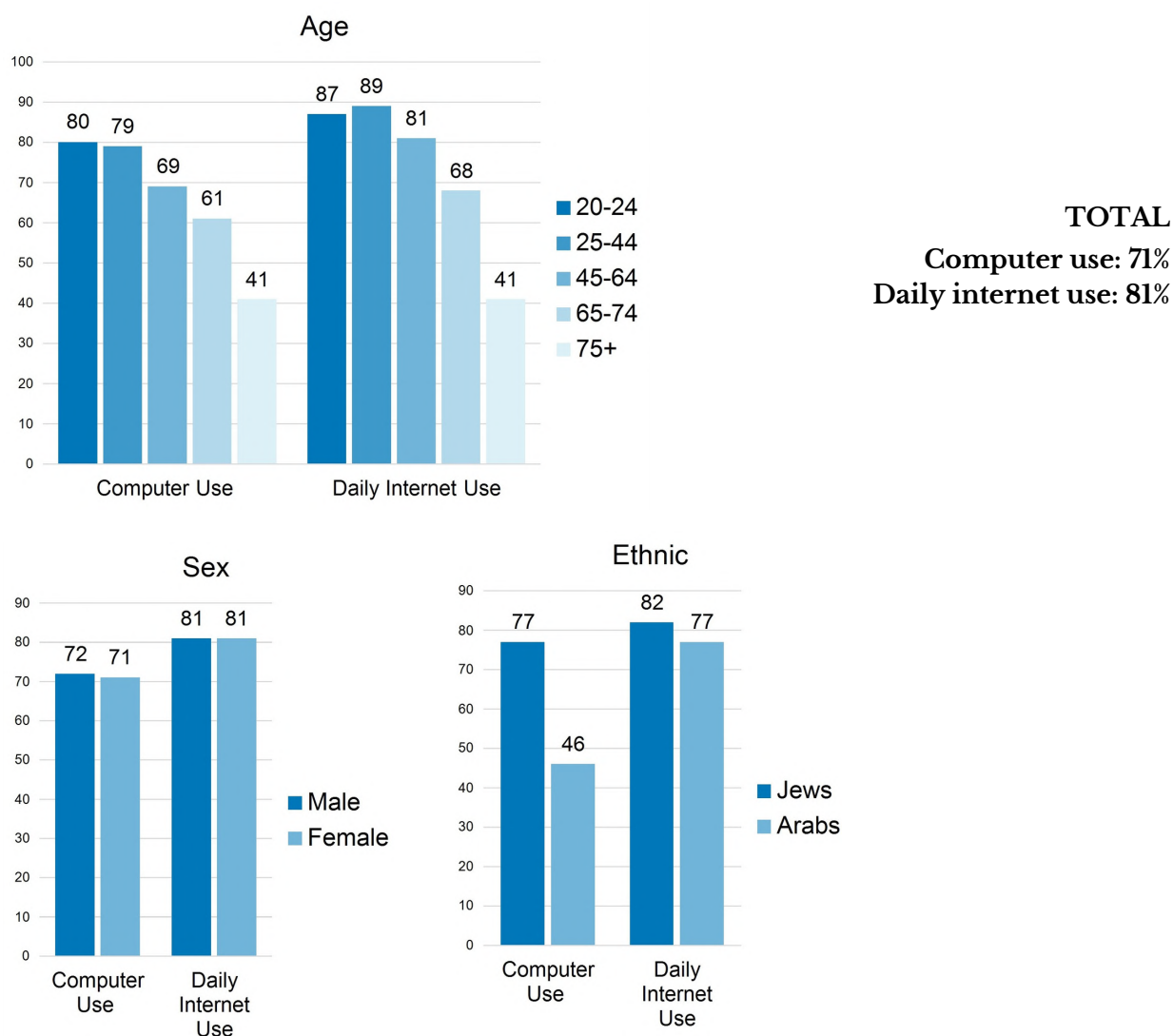
There are thousands of technology companies and about 899 startup enterprises established in Israel in the last decade, placing it 14th in the world by number of startups.[18] However, a big part of Israeli society is not taking part in this technological world. About a quarter of the population in Israel in 2019 (around 3.1 million adults) lacked or had low digital literacy and accessibility to advanced infrastructure and peripherals.[19] The ability to use these tools may reduce social disparities and encourage financial growth, and thus makes an important policy objective.

[18] See the worldwide startup ranking at <https://www.startupranking.com/countries> (accessed 3 September 2020).

[19] Headquarters for the National Digital Israel Initiative Guide, "להיות שותפים לצמצום הפער החברתי בישראל" (Taking part in reducing the digital divide in Israel), 2019, Ministry of Social Equality.

Israel's social disparities in computer and internet use are related to background characteristics such as education, income, religiosity, and nationality. They are noticeable among underprivileged populations in the geographical and social periphery of Israel, but there are three groups in which it is particularly reflected among adults: ultra-Orthodox Jews, the Arab population and the elderly (aged 65 and over).

Computer and internet use in Israel (%), adults over 20 years old, 2019



Source: CMDS, the Knesset Research and Information Center [20]

Other key differences in digital use revolve mainly around age, ethnicity, education and income. The rate of internet users (aged 20+) is higher than that of computer users and related to evolving surfing habits via mobile phones. There is an inverse correlation between age and digital uses: the higher the age of respondents, the lower the internet and computer use. The gender differences in the frequency of digital use are negligible to non-existent in Israel. While

[20] Data from: Roy Goldsmith, "הפער הדיגיטלי ויישום המדיניות הממשלתית לצמצומו" (The digital divide and the implementation of government policy to reduce it), Knesset research and Information Center, 15 September 2020, available (in Hebrew): https://fs.knesset.gov.il/globaldocs/MMM/e16a8506-dbae-ea11-8107-00155d0aee38/2_e16a8506-dbae-ea11-8107-00155d0aee38_11_16314.pdf (accessed 6 October 2020).

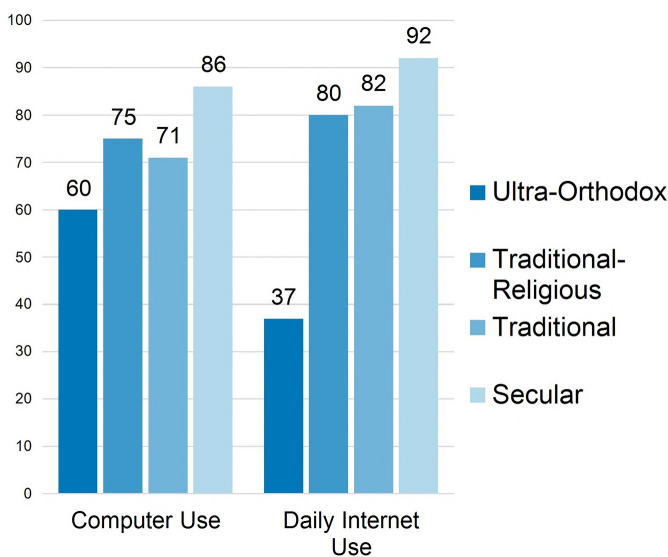
the gap between Jews and Arabs in the daily rate of internet use is relatively small (82% compared to 77%, respectively), there is a considerable gap in the rate of computer use among the same groups (77% Jews compared to 46% among Arabs).

In general, higher levels of education correlate with higher rate of daily internet and computer use, with 94% use (of both computer and internet) rate among academics vs 53% computer use and 74% internet use among those who did not complete matriculation exams.

As the level of income per person in a household increases, so does the daily internet usage rate with 61% in low income households (around €500 per person) vs 96% in higher earning households (above €1,000 per person).

Another factor influencing technology use that is typical of Israel is individuals' self-definition' (aka degree) of religiosity among the Jewish population. This religious self-definition is spread out across society and entails different lifestyles, cultural and social features. Obviously, it carries implications for the digital divide.

“Degree of Religiosity”: digital use rate among Jews



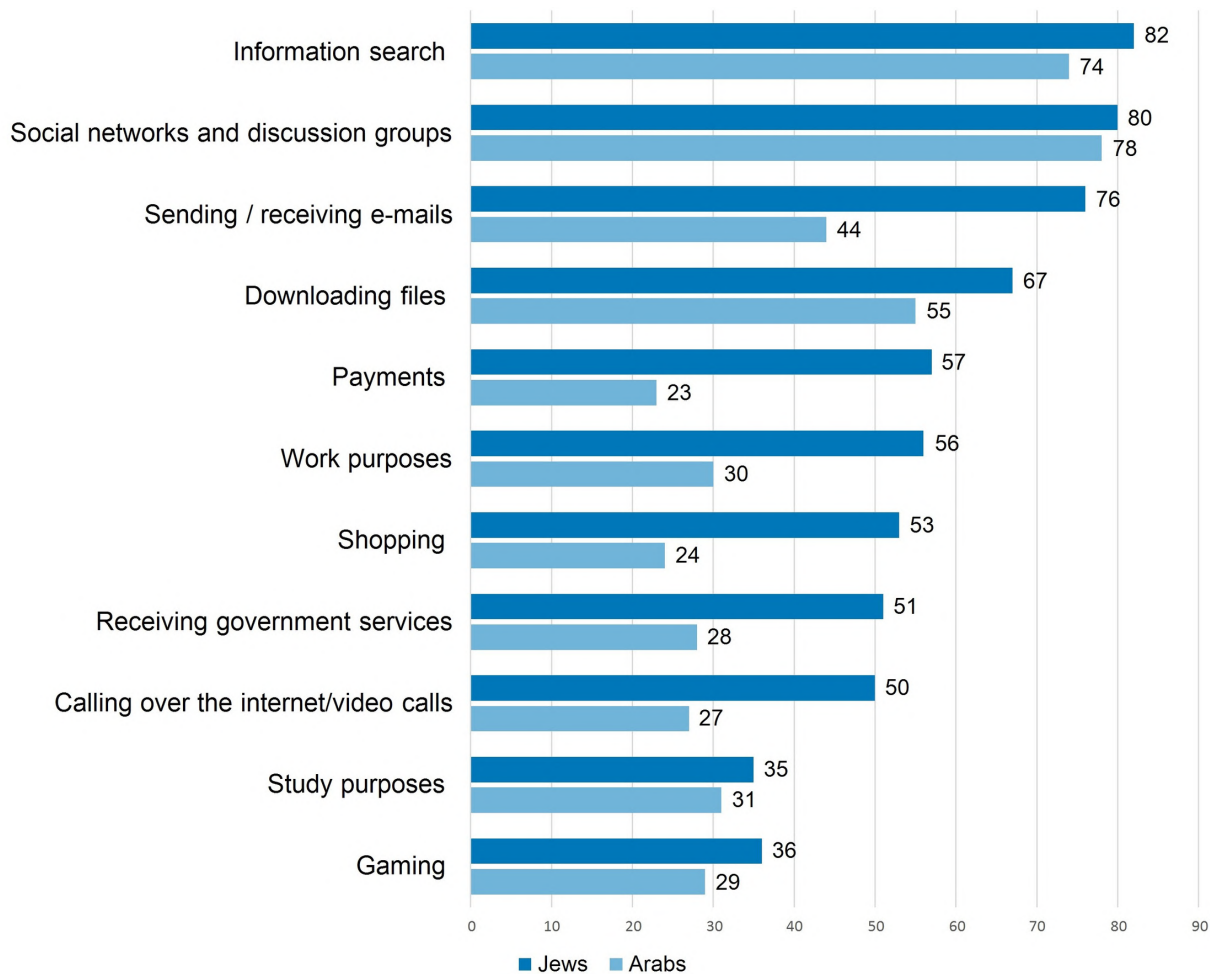
Source: CMDS, Knesset Research and Information Center

Separation and conservatism are two key characteristics of ultra-Orthodox society. Innovation and technology pose a threat to its traditional lifestyles and world views. Therefore alongside other barriers such as accessible infrastructure, lack of knowledge of English, fear of non-“Kosher” contents and limited economic resources, the powerful rabbinical authorities of the community generally oppose digital progress. Thus, among the ultra-Orthodox, the rate of daily computer users is higher than that of daily internet users. The rate of ultra-Orthodox sector members who reported a daily internet use was 37%, compared to about 80% among the religious and the traditional groups, and 92% among seculars.

Likewise, among members of other religions there is a similar link between self-definition of religiosity and computer and internet daily usage patterns: 72% usage among non-Jews who define themselves “very religious or religious” compared to 85% among non-Jews who are “not so religious”, or “secular.”

In line with global trends, Israelis also use the internet as a means of extending their social, economic, civic and political lives. Jews report greater use of the internet than Arabs, for the above mentioned uses.[21] Information search and participating in social networks are the most common uses by both. The rate of Jews who use the internet for making online payments, shopping, and receiving government services is more than double the rate of Arabs who use the internet for these purposes.

Internet usage rate for various purposes in Israel, by nationality, aged 20+, 2019



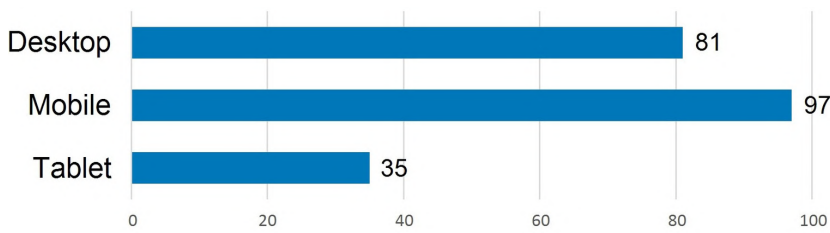
Source: CMDS, the Knesset Research and Information Center

Desktop computers and mobile phones were the most used devices, more than tablets, during 2020. Nevertheless, the first two were almost equally popular. Tablets' popularity kept a low, yet stable share (of maximum 2%) throughout the year. Desktops lost (and mobile devices gained) about 15% between January and December 2020, according to StatCounter.[22]

[21] The sectorial nature of Israeli society and the different attitude of the establishment to the different sectors, is also reflected in statistical publications. These publications about the digital divide tend to not aggregate data from the general population, but rather divide it to its segments, mainly Jewish and Arab.

[22] See: <https://gs.statcounter.com/platform-market-share/desktop-mobile-tablet/israel/2020>

Internet users aged 16-64 who owned each kind of device (% of total), 2020



Source: DataReportal (Israel), 2020 [23]

Windows platforms led the Israeli desktop OS market with about 84% on average, throughout 2020. Apple products' popularity lagged behind while dropping from 14% to 9% by the end of the year. In the mobile device market, over the years Apple and Google have eliminated any potential competitor while gradually becoming similar to each other. Neither is superior in terms of features or app availability, but each OS has different goals, and a different profit model.

Google plays on market-share volumes: it distributes Android as an open source OS, and once enough people have it in hand, Google can produce revenues from ads. Apple though is a hardware player, generating its earnings from the sale of devices. Over the years, Apple has managed to maintain a steady average income from iPhone devices in Israel.[24] Thus, although both dominate the market, Android mobile phones loom large in the Israeli market (around 78%). For tablets, Apple is still the preferred vendor with its iOS (between 56%-62%).

The OS game

Operating System market share (%) in Israel, December 2020

OS	Windows	Android	iOS	OS X	Linux
All platforms	36.2	44.5	14.06	3.9	0.6
Desktop	87.62	0	0	9.45	1.44
Mobile	0	76.94	22.89	0	0
Tablet	0.01	44.5	55.4	0	0

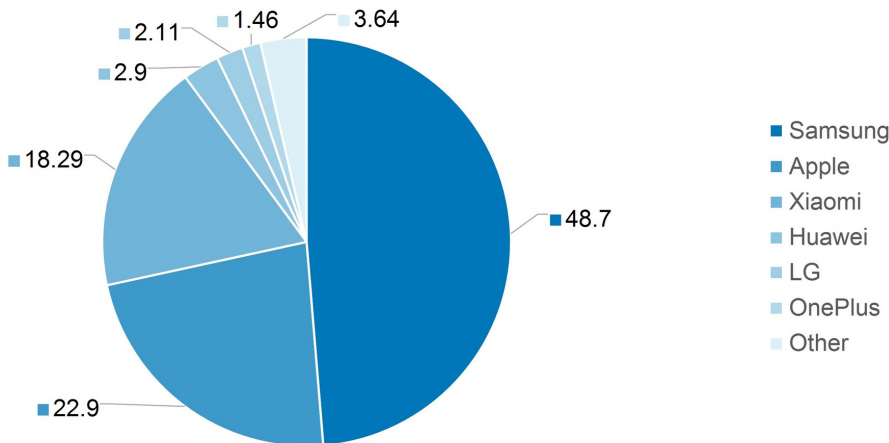
Source: StatCounter, Israel 2020

[23] <https://datareportal.com/reports/digital-2020-israel>

[24] Amitai Ziv, "הקרב על הנייד" (The battle on the Mobile), The Marker, 15 October 2018, available (in Hebrew) at <https://www.themarker.com/magazine/1.6553968> (accessed 17 November 2020).

Prominent mobile makers

Mobile vendor market share (%) in Israel, December 2020



Source: StatCounter, 2020

More than 12 years have passed since Google released the first version of the Chrome browser, which immediately became a direct competitor to Microsoft's IE and Mozilla's Firefox. Today, Google's Chrome, despite not a default built-in Windows' browser, has the largest market share by a considerable margin in Israel. Opera, Apple's Safari, and even smaller browsers are far behind, with tiny market shares.

While Safari is the second most used browser on mobiles and tablets, it is lagging behind on desktops where Microsoft Edge and Firefox overtakes it by a few percentage points. On mobile devices Samsung Internet comes third, probably because it is pre-installed in the popular Samsung Galaxy devices. Internet Explorer, which has reached an unprecedented low in usage popularity (falling from 70% to less than 1% in about a decade), is likely to become extinct also in Israel, following Microsoft's announcement that it will end support for IE 11 in all its applications and services in mid-2021. Microsoft's decision comes as part of its efforts to produce a worthy successor, in the form of Microsoft Edge, which will work on Chromium and will have the ability to compete with its successful Google Chrome counterpart.[25]

The browser game

Browser market share (%) in Israel, December 2020

Browser	Chrome	Safari	Samsung Internet	Firefox	Edge	Explorer (IE)	Opera	Other
All platforms	71.8	14.08	6.78	2.24	2.08	0.93	0	
Desktop	80.57	3.86	0	5	5.04	2.26	1.62	
Mobile	66.3	20.58	11.9	0.29	0.07	0	0.37	
Tablet	49.9	41.7	0	0.21	0	0	0.36	Android: 7.23

Source: StatCounter, Israel 2020

[25] See: <https://techcommunity.microsoft.com/t5/microsoft-365-blog/microsoft-365-apps-say-farewell-to-internet-explorer-11-and/ba-p/1591666> (accessed 8 February 2021).

Google controls more than 90% of the Israeli search engine market, as it does in the rest of the Western world. A search engine like Google ostensibly grants access to any information whatsoever. However, studies have shown that search engines influence the political choices consumers make because of the great trust they have in ranking results. Research of the field also found that a systematic bias in search results can change the minds of up to 20% of undecided voters; and this can be much higher in specific demographic groups, thus having the power to influence election results.[26] This effect is especially significant in countries that are dominated by a single search engine, like that of Google.

There are plenty of alternative search engines out there in Israel but they are less known and their market share is almost insignificant.

Search engine market share (%) in Israel, December 2020

Search Engine	Google	Bing	Yahoo!	DuckDuck Go	Yandex Ru
All platforms	97.7	1.07	0.38	0.14	0.61
Desktop	93.8	3.81	0.9	0.26	0.87
Mobile	99	0.09	0.19	0.09	0.52
Tablet	98.15	0.37	0.77	0.15	0.38

Source: StatCounter, Israel 2020

Israel has a long open-source tradition, home to some of the world's leading code developers. Among them are JFrog, Elastic and Redis Labs, which have grown to be international companies operating from their Israeli base. In recent years, open-sourced codes acquired even a higher status when not only startups have adopted it, but also larger organizations, including government ministries and the army.[27]

Nevertheless, despite the popularity of Android devices and the fact that nowadays there are probably more hardware and services that run on open-source software than on Microsoft, the individual user is still less inclined to choose open-source engines and software voluntarily.

Open source software's advantages such as cost cutting, freedom from business dependency and program transparency continue to be weakened by technological fear and what experts call the "fragile security" myth. While it is true that open-source software is more susceptible to hacking and malware, having the software code open means that the possible solutions to cracks are multiple, adequate, and immediate.[28]

In Israel there are about six million social network users (70% penetration rate) who spend about two hours a day on social media.

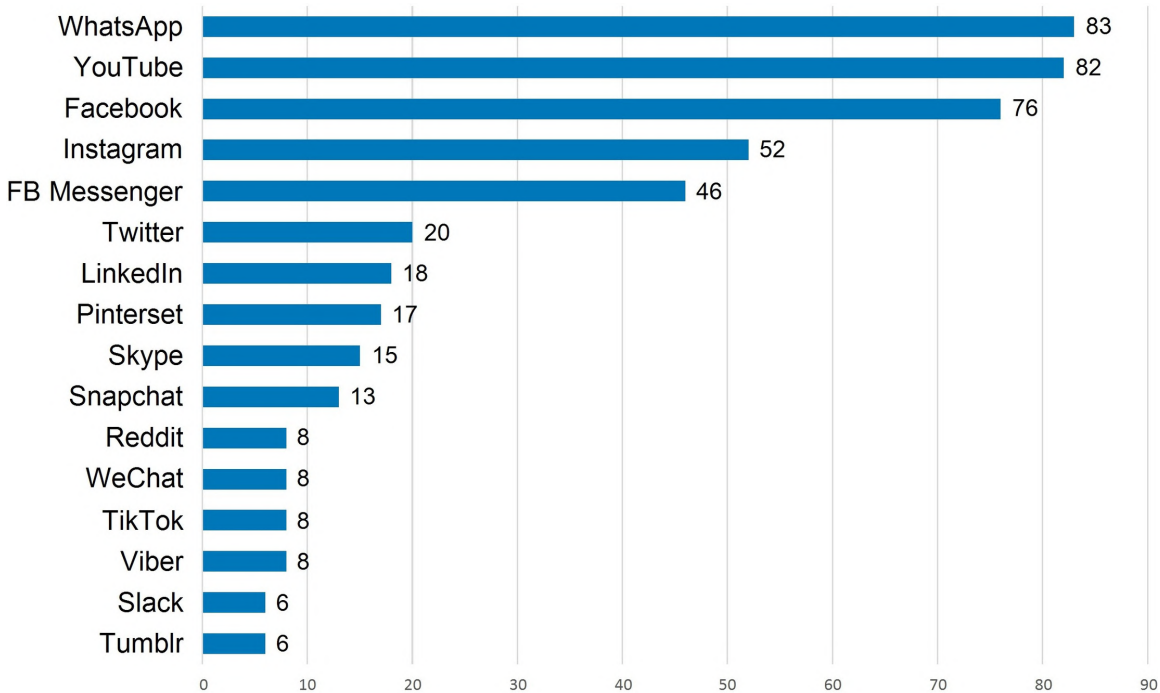
[26] See: <https://www.pnas.org/content/112/33/E4512.short> (accessed 12 November 2020).

[27] Oren Yunger, "קוד פתוח: היכן נמצאת ישראל ביחס לעולם ולאן מועדות פניה" (Open source: Where is Israel compared to the world and where is it headed? Calcalist, 30 August 2020, available online (in Hebrew) at: <https://www.calcalist.co.il/internet/articles/0,7340,L-3847212,00.html> (accessed 13 November 2020).

[28] Ori Idan, "האם הקוד הפתוח פחות בטוח?" (Is the open-source less secure?), DigitalWhisper, 8 May, 2010, available (in Hebrew) at: <https://www.digitalwhisper.co.il/files/Zines/0x08/DW8-3-OpenSource.pdf> (accessed 13 November, 2020).

Socializing online

Social media market Israel (%), December 2020



Source: DataReportal (Israel) 2020

Surprisingly enough, it is not Facebook that dominates the digital social habits of Israelis, but rather WhatsApp leads the mobile messaging market with its free app. YouTube comes second with an almost equal use rate. FB is rated only third on this ranking, but it targets a general audience who uses it for personal, professional, commercial, and ideological purposes. Instagram has a decent half of the market share. It is considered more prestigious than FB and oftentimes also serves as an outlet for the artistic and creative aspirations of its users. Since it focuses on the visual rather than the verbal, it is very popular among trend leaders, fashion professionals, photographers, celebrities, and actors. Twitter is usually perceived as more professional and of higher prestige; it is often used by politicians and journalists.

PROFILES OF KEY PLAYERS

Internet & Mobile

Key players in the Israeli internet and mobile market, breakdown by services

Company	Email service	Messaging and VoIP	Mobile ecosystems	Search	Social network & blog	Video & photo	Cloud Services
Apple		+	+				+
Facebook WhatsApp		+			+	+	
Google YouTube	+		+	+		+	+
Microsoft	+	+		+			+
Samsung			+				+

Source: StatCounter, Israel 2020

Facebook



The history of Facebook Israel goes back to 2010 when it was founded as a startup company named Onavo Mobile by Roy Tiger and Guy Rosen. In October 2013, Facebook purchased Onavo for an estimated US\$ 150m, changed the company's name to Facebook Israel and set up its development center in Tel-Aviv. Onavo's founders, Tiger and Rosen, have since taken senior positions at Facebook's Silicon Valley headquarters. Since 2016, Facebook Israel's R&D center has grown from 85 to over 250 engineers. Among other things, it leads the development of Facebook's Lite app and the company's Express Wi-Fi project, which aims to connect underdeveloped countries to the internet.

Adi Soffer Teeni has served as Facebook Israel's CEO since 2014, coordinating the company's marketing, advertising, and commerce activities with its about 100 employees.

There is no financial information about Facebook's operation in Israel. Facebook has about 18 trademarks in Israel, but the global WhatsApp, which it purchased in 2014, seems to have the greatest significance for Israelis: according to the 2019 Bezeq's annual internet report, WhatsApp is the most popular app in the country; 91% of Israelis were using it.[29] In January 2020 WhatsApp announced globally to its two billion users that as of February 8, 2021 it was changing the way it would share its information with Facebook. The message appeared for every user and those who refused to approve the new terms of use were warned they would be blocked. In Israel, not only private persons but state institutions and functionaries are very dependent on

[29] See the report at https://media.bezeq.co.il/pdf/internetreport_2019.pdf, (in Hebrew), accessed 4 January 2020.

WhatsApp; military and police units, without official permission, communicate on the app, and doctors and medical staffs in hospitals use it to discuss patients' private medical information. WhatsApp's new policy has special privacy implications for local users.[30]

Google



Google has been operating in Israel since 2005. It employs 800 people in the country. Its local business was established by Meir Brand, who now serves as Vice President of Google Global, and Director of Emerging Markets at EMEA countries (Russia, Middle East and Africa). Since 2017, Barak Regev has been serving as CEO of Google's Israeli branch.

Google has extensive research and development activity in Israel. In 2006, two Google R&D centers were established in Haifa and Tel Aviv, later merged into a Strategic R&D center, led by Prof. Yossi Matias. The center has developed several features in Google products, among them 'Google Suggest', the ability to add layers to YouTube, Google Trends and Google Visualization mechanisms. It had several collaborations with Israeli national institutions such as the Antiquities Authority, the National Museum and Yad Vashem museum.

In June 2013, Google purchased Waze Mobile, the app operator, for US\$ 966m, keeping the Waze development center in Israel.

One of the biggest unknown variables in the advertising market in Israel is how much Google makes on the local market. In the absence of any official reporting, their turnover and revenues remain in the realm of experts' estimates.[31] TheMarker, a financial newspaper in Israel, estimated in late 2018 that Google's local revenues are slightly higher than EMEA average and reach about ILS 600m (US\$ 167m) a year.

Estimates that Google's operation in Israel is more profitable than the global average, and certainly more than the average in EMEA, are also based on data about the global use of different Google platforms. For example, Google's search engine market share in Israel reached more than 97% in September 2018, compared to a world average use of 92.3%.

Secondly, the estimates are based on the extent of YouTube use in Israel, a channel that accounts for a significant share of the company's revenues. In 2018, YouTube revealed that there were 3.5 million unique users monthly in Israel, which represented more than half of the Israeli population. Hence the volume of YouTube's revenue from the Israeli market is probably higher than the global average.[32]

Google and Facebook both have been making great efforts to disconnect themselves from their commercial activity in Israel. For tax purposes they argue that they do not have a permanent establishment in Israel, but in Ireland. In fact, they pay 0% corporate tax and income tax in

[30] Amitai Ziv, Ruthi Levi, "מה וואטסאפ הודיעה, מה הבעיה, ומה ניתן לעשות עם זה" (What was WhatsApp announcing, what the problem is, and what can be done about it?), TheMarker, 10 January 2021, available (in Hebrew) at: <https://www.themarker.com/technation/.premium-1.9438973> (accessed 10 January 2021).

[31] Nati Toker, "הקליק שלנו שווה הרבה: הרווח האדיר של גוגל בישראל" (Our click worths a lot: the enormous profit of Google in Israel), The Marker, 31 October 2018, available (in Hebrew) at <https://www.themarker.com/magazine/.premium-MAGAZINE-1.6547099> (accessed 12 November 2020).

[32] Nati Toker, Our click worths a lot..., *cit.*

Israel, justifying this by Ireland's tax policy. Local experts say that this exemption gives them an advantage over the rest of the competitors in the local market, reducing significant revenues in the state coffers and preventing the companies that purchase their products from recording their expenses for tax deductions.[33]

Telecommunications

In recent years, the Israeli market has been saturated with communications companies that operate simultaneously in several telecom sectors: fixed and mobile telephony, fixed and mobile internet services, multi-channel television and international calls. It is a competitive market, even too competitive some would say, in a way which endangers either the existence of some operators or the motivation of infrastructure providers to invest in advanced networks.[34] The four main groups operating in the communications market are Bezeq, HOT, Cellcom and Partner.[35]

The Telecom Giants

Financial data for the leading telecom brands 2017-2020/1 (\$ million)

	Net profit/loss (US\$ m)				Ownership	Country of ownership	Internet subscriber rate
	2017	2018	2019	2020			
Bezeq	343	-296	-305.3	94.8	'Searchlight', T.N.R (Forer family), David Mizrahi	US/UK/ Canada/Israel	43%
Hot	324	n/a	n/a	n/a	Patric Darhi 'Altice'	Netherlands/ France/Israel	31%
Cellcom	31	-17.7	-30	-12.3	Discount Investment Corp (48.21%), Menora, Pheonix	Israel/Netherlands	12%
Partner	31.6	15.5	5.3	2.8	S.B (Haim Saban)	US/Israel	14%

Note: HOT's company data is from 2017 (except for the rate of internet subscribers). The rate of internet subscriptions to service provider companies (which have no fixed infrastructure) rose to about 26% in 2019, mainly concomitantly with the decrease in the rate of Bezeq's subscriptions, following the "wholesale market reform." The sums are calculated based on the yearly average exchange rate, published by the Bank of Israel.

n/a: not available

Source: Knesset Research and Information Center

The four main groups are active in five telecom segments. In the fixed infrastructure sector, there are mainly two groups, Bezeq and HOT, but Cellcom and Partner have also begun to deploy optical fiber.

[33] Omer Sharvit, "הם לא עוסקים בזה בארץ" (They just don't deal with it here), The 7th Eye, 5 April 2016, available (in Hebrew) at <https://www.the7eye.org.il/199299> (accessed 2 October 2020).

[34] Botosh, Goldsmith and Eisenkot, Fiber-based Internet infrastructures..., *cit.*

[35] There are other market players in Israel that are not part of one of the communication groups mentioned above, such as Golan Telecom and WE4G-Exfon, as well as Mobile virtual network operators (MVNOs) in the mobile segment, international services operators and ISPs, including wholesale market providers. In this regard, a "group" is characterized by a close relationship that results from the shareholders' identity, although in some groups a corporate, accounting or marketing separation between the group's entities is maintained.

Distribution by segments of activity of the main players in the market, 2019

Activity segment	Group			
	Bezeq	Hot	Cellcom	Partner
Cellular	Pelephone	Hot mobile	Cellcom	Partner
Fixed telephony	Bezeq and Bezeq Int.	Hot Telecom	Cellcom & Netvision	Partner & 012 smile
Fixed internet infrastructure	Bezeq	Hot Telecom	IBC	Partner
Internet services provider	Bezeq Int.	Hot-net	Cellcom & Netvision	Partner & 012 smile
International calls (fixed and mobile)	Bezeq Int.	Hot mobile	Cellcom & Netvision	Partner & 012 smile
Multi-channel TV	Yes TV (D.B.S)	Hot broadcast	Cellcom TV	Partner TV

Source: Knesset Research and Information Center

Bezeq Group is the oldest Israeli telecom player and has the largest share in the fixed communications market. According to the Ministry of Communications (MOC), it is the most dominant company, due to its ownership of a passive infrastructure system providing nearly nationwide coverage (since 1984). This infrastructure allows Bezeq to easily expand further without the necessary costs and approvals required from other companies. This asset gives it a great competitive advantage.

In the mobile communications sector, Bezeq operates through the Pelephone company. Bezeq joined as a partner in Pelephone in 1994 and currently fully owns it. Pelephone has a 3G and 4G cellular network nationwide without sharing with other operators. Until Cellcom entered the mobile market in 1994, Pelephone was the sole mobile player in Israel.

Cellcom Group entered the market in 1994 after winning an MOC frequency tender. The group has a 3G and 4G mobile network nationwide, and optical fibers are connected between its mobile antennas.

Since 2015, with the launch of the “wholesale market reform” (see details in Tech and Government section), Cellcom has been marketing fixed internet infrastructure services by purchasing access from Bezeq (BSA service). In 2017, the company began deploying optical fiber infrastructure by using Bezeq’s passive infrastructure system.

Partner Group entered the market in 1998 following an MOC frequency tender, which made it the third competitor in the mobile segment. As of 2015, like Cellcom, Partner company has been marketing fixed-line internet infrastructure services by acquiring access from Bezeq (BSA). In addition, with the “wholesale market reform,” the company also started deploying fiber-optic infrastructure on Bezeq’s passive system. The Group has a nationwide mobile network and a joint corporation with Hot Mobile.

HOT Group also entered the mobile communications market after it won a frequency tender in 2012. The group has a 3G and 4G mobile network (operated as HOT mobile, formerly under the

Mirs' brand). The group has significant investments in the fixed communications market. It has a fixed infrastructure based on its own cable network and it also provides services to its customers (telephony and internet infrastructure).[36] HOT is declared a monopoly in the supply of multi-channel pay-TV broadcasting in each of the franchise areas in which it operates. It is prohibited from providing service bundles that include television with mobile or internet. HOT is committed to a universal coverage, and its infrastructure is deployed nationwide, but it is not complete (about 90% of households are covered).[37] As of September 2018, the company has been classified as private ownership and it does not publish financial reports.

TECH AND GOVERNMENT

The Ministry of Communication (MOC), the main regulator in the telecom market, has been failing repeatedly in recent years to promote public interest in the field.[38] Since February 2017, due to the political instability in Israel, five ministers have already been stepping in office, most of whom have been serving for only a few months, including the present acting minister, MK Benny Ganz. In the absence of an effective minister, the professional echelon takes over powerfully and operates almost unsupervised while heavy regulation strangles market initiatives.[39] Mostly, it is the roll-out of fiber-optics and 5G network that has been delayed in Israel.[40]

The last decade saw several reforms in the telecom market that are believed to have led to a major market failure. The two most prominent ones are the following. In the mobile segment, 2011 was a year of transformation when virtual operators received license to enter the already small market, while granting yet another operator's concession (Golan Telecom).[41] This was a significant competition accelerator.

In the fixed communications segment, a 2015 amendment, named "the wholesale market reform," has increased competition even more.[42] Bezeq Group was most significantly affected by the consequences of this reform. By 2020, about 26% of internet subscribers were connected through non-infrastructure companies that purchase wholesale market services from infrastructure owners. By endorsing the use of Bezeq's passive infrastructure, the other companies could deploy fiber-optics infrastructure quickly and at low costs.

According to telecom experts and the companies themselves, this situation brought about large losses in recent years, which in turn made it difficult for the companies to further invest in advanced infrastructure.[43]

[36] According to the MOC, HOT's passive infrastructure system is partial and reaches about a third of households in Israel. In the rest of the areas, it is either threading the cables in the ground without passive piping or uses Bezeq's passive network (*see footnote 40*).

[37] This network provides television services, internet connection and landline telephony. The maximum download rate using this infrastructure reaches about 500 MBs (after mid-2019).

[38] Gad Peretz, "לידיעת הרגולטורים בתחום התקשורת: אלה שבעת העיוותים המרכזיים של השוק", (For the information of the communication regulators: these are the seven main market failures), Globes, 9 January 2020 <https://www.globes.co.il/news/article.aspx?did=1001314160> (accessed 2 December 2020).

[39] Gad Perez, Anat Bein-Lubovitch, "ענף במשבר מחכה להנצל: מי הם מותגי המדיה והסלולר שהישראלים בכל זאת אוהבים" (An industry in crisis is waiting to be rescued: who are the media and cellular brands that Israelis still love), Globes, 6 August 2019, available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001294017>, (accessed 15 November 2020).

[40] The mobile companies have not yet fully launched the 4G network throughout the country.

[41] Since then companies without their own mobile infrastructure could operate and offer services to customers. This has led to heavy competition in this market and to extremely low mobile consumer prices (second lowest in the world after India).

[42] The reform stipulated that a domestic operator (DOP) will allow another DOP to use its passive infrastructure to deploy cables or fiber-optics.

[43] Botosh, Goldsmith and Eisenkot, Fiber-based Internet infrastructures..., *cit.*

Thus, after lagging behind global trends with low mobile internet speed and following years of deliberations, two major developments have been recorded in the field.

On 29 September 2020, for the first time in Israel, the MOC granted mobile operators that won the frequency tender licenses to operate 5G networks. In addition, the Tenders Committee for 5G Frequencies has been expanded to allocate additional frequencies, thus preparing for mobile use increase and massive information transmission (planning ahead, before these infrastructures get overloaded). At the same time, the MOC, in collaboration with the Innovation Authority (Ministry of Economy), promotes the development of 5G-based technology apps. For this purpose, a call was published for startup companies and the Israeli technology industry to provide economic incentives of about ILS 10m for R&D in 5G environments.[44]

Later in 2020, the Knesset plenum approved the Communications Law's outline for the deployment of fiber-optics in Israel.[45] The amendment includes a significant relief for Bezeq: it will not be required to offer fiber-optics coverage throughout Israel but will be able to select "statistical areas" which to cover. It is estimated that Bezeq will eventually lay out in about 80% of households in Israel.[46] The solution for the remaining 20% of households is to have the government to establish a fund that will be financed by the telecom companies with about ILS 90m a year. Bezeq, which holds about 50% of the communications market's revenues, will finance half of the fund.[47]

Telecom giants usually do not use powerful leverages with policymakers in Israel but do lobby through traditional channels for their interests. Yet, Bezeq again is an exception to the rule. The group was under scrutiny by the Securities Authority and the State Comptroller regarding an allegedly facilitating regulatory policy it was granted by the MOC, thanks to the friendship between Shaul Elovitch, Bezeq's former owner, and Prime Minister Benjamin Netanyahu. In December 2020, an indictment was filed against Elovitch and Bezeq executives in two sub-cases. (*See the Walla! Bezeq and the 4000-case review in Funding Journalism in the Media Influence Matrix: Israel*)[48] PM Netanyahu's direct involvement is also under court procedures.

Since that incident, Bezeq has been slowly recovering thanks to a series of maneuvers attributed mainly to its former Chairman Shlomo Rodav.[49] The new owners of Bezeq, the Searchlight Fund and David Forer, had expected to restore stability to the company, but Rodav resigned due to disagreements with Searchlight Fund. The Bezeq Group is still faced with major decisions regarding the group's restructuring.[50]

[44] See MOC 5G FAQ (in Hebrew): <https://www.gov.il/he/departments/faq/01042020>, (accessed 15 November 2020)

[45] See MOC statement (in Hebrew): <https://www.gov.il/he/departments/news/22122020> (accessed 23 December 2020).

[46] HOT will also be required to lay out fiber in only about 30% of households.

[47] Nati Toker, "הממשלה אישרה: בזק תקבל הקלות ותשיק רשת סיבים אופטיים" (The government approved: Bezeq will get a relief and launch a fiber-optic network), *The Marker*, 13 September, 2020, available (in Hebrew) at <https://www.themarker.com/advertising/1.9152396> (accessed 5 November 2020).

[48] In the framework of this investigation, a number of cases were at stake and involved senior executives in Elovitch's Bezeq conglomerate (from Yes, Walla! and Spacecom), as well as a number of civil servants related by virtue of their position in work relations with Bezeq. The allegations are of criminal offenses, including misleading statements, fraud and breach of trust in the corporation, and offenses of obstruction of justice.

[49] Rodev has led several strategic moves, some of which have not yet matured. The significant move was to consolidate the activities of Bezeq's subsidiaries, as a step of saving and efficiency. In addition, he led large erasures in the value of Bezeq's subsidiaries and its tax asset (worth NIS 1.2 billion) from Yes after it could not be materialized. See: Nati Toker, "דרמה בבזק: היו"ר, חודב מתפטר" (Drama in Bezeq: Chairman Shlomo Rodev resigns), *The Marker*, 22 June 2020, available (in Hebrew) at <https://www.themarker.com/markets/1.8939634> (accessed 6 November 2020).

[50] Gad Peretz, "יו"ר בזק מוביל שינוי אסטרטגי: דלויט תבחן את החברות הבנות ובעיקר את יס" (Bezeq chairman leads strategic change: Deloitte will examine the subsidiaries with a focus on Yes), *Globes*, 22 February 2021, available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001361578> (accessed 12 March 2021)

Rami Levy Communications is a public company controlled by businessman Rami Levy who made his fortune from a supermarket chain, the third largest in Israel today. The communications company he owns operates an MVNO on an existing Pelephone infrastructure. It was founded in 2011 along with the introduction of the above-mentioned virtual operator reform, signed by the then minister of communications, Moshe Kahlon (Likud party member). Levy always kept a close relationship with Kahlon and the Likud ruling party. Although Moshe Kahlon retired from the political life in March 2020 after serving in the past as minister of communications, finance and welfare, his friendship with Rami Levy is a well-known fact and it is not inconceivable that it did not undermine Levy's interests, to say the least.[51]

Rami Levy was also a member of the Jerusalem City Council on behalf of the Likud Party (under Netanyahu's primary). Levy featured three times in Netanyahu and the Likud's election campaigns (2013, 2015 and 2020).[52] In 2015, he was chosen by the Ministerial Committee (of Netanyahu's coalition) to light the Independence Day beacon, a public national symbolic ritual that few and far between have been honored with.

On 30 November 2020, a serious indictment was filed against Levy's communications company, against its manager Ophir Atias, Rami Levy's nephew, and against Shlomo Julian, the company's security officer, for invasion of privacy and illegally tracking employees, customers, and journalists. The case against Rami Levy himself, who was investigated in the matter, has been closed.

TECH AND JOURNALISM

Social Media

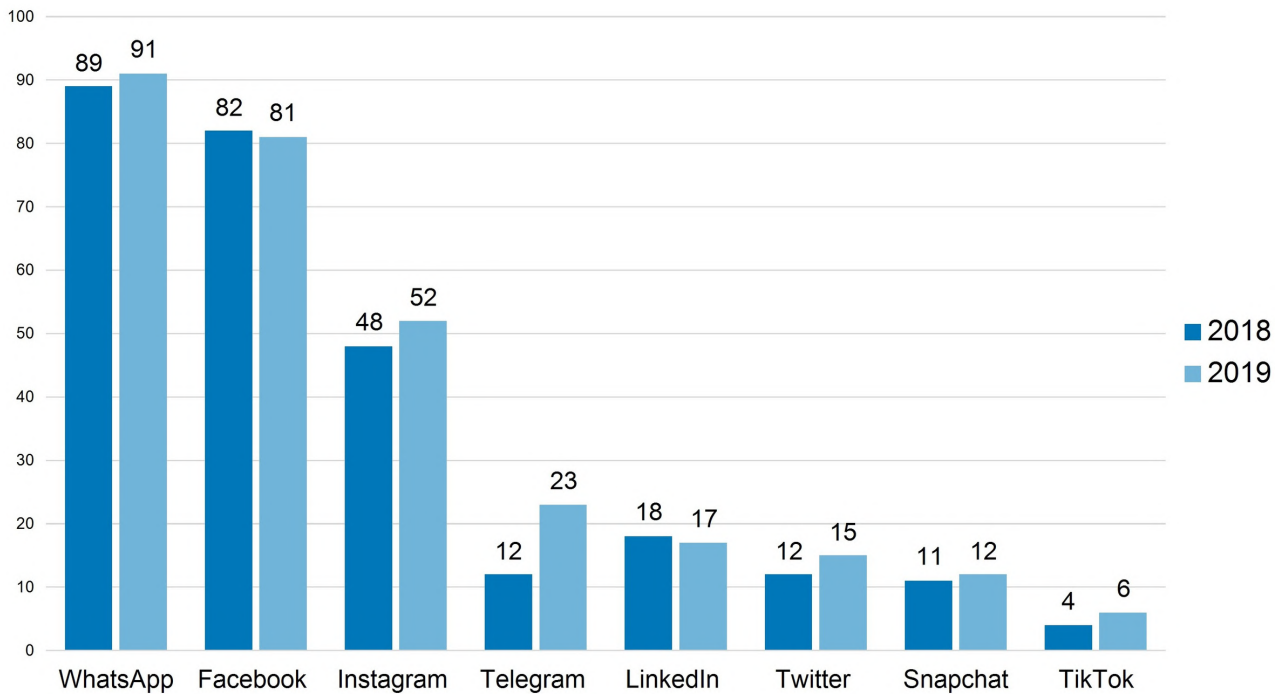
Israelis get most of their information on political issues from online news sites, while television news consumption comes second. Surprisingly, social networks largely surpass both radio and print in news consumption: 76% of the public in Israel consume news content on social networks at least once a day; 40% of Jews and 66% of Arabs indicated that this is one of their favorite media outlets for news and current affairs.[53]

[51] Zvi Zarhia, "הכירו את האנשים שילחשו על אזונו של שר האוצר הבא" (Meet the people who will whisper in the ear of the next Finance Minister), The Marker, 19 March, 2015, available (in Hebrew) at <https://www.themarker.com/news/1.2593892> (accessed 25 November 2020).

[52] Dani Zaken, "ההבטחות הממוחזרות של ראש הממשלה נתניהו" (Prime Minister Netanyahu's recycled promises), Globes, 16 February 2020, available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001318621> (accessed 25 November 2020).

[53] Tehilla Shwartz Altshuler, "האמת על פייק ניוז" (The truth about fake news), IDI, 9 February 2020, available (in Hebrew) at <https://www.idi.org.il/articles/28828> (accessed 27 October 2020).

Apps popularity in Israel (%), 2019-2020



Source: Bezeq digital Life report 2019-2020

WhatsApp was the leading messaging app in 2019 (91% users) followed by Facebook, its mother company, with 81%. Hence, Facebook plays a major role as a super-disseminator for media content providers.[54] Facebook continued to establish itself as a community and less of a personal network, with an average of 16 groups per person. Facebook age patterns confirm that it addresses more the adult audience (85%), with 50% of Internet-using teenagers saying they were active on its platform.[55]

The most followed news media pages on Facebook present a picture of a wide palette of interests and preferences in Israeli media. They also reflect the complexity of Israeli society. A mix of languages, religions and media operations (digital, print and television) feature among the top 10 outlets. An illustration of this complexity is Panet and Bokra, two Arabic websites that surpass the Israeli-Hebrew-Jewish outlets with the highest number of followers, which are probably accessed from within and without the country. Yet, considering the Arabs' share in the population (around 21.1%, 1.9 million in 2020) this is an expression of a complete mistrust among them in the Hebrew-speaking dominant media operations in Israel.[56]

Another remarkable reflection of societal complexity could be seen in the popular God TV (Shelanu), a global evangelical pro-Zionist and right-wing network. It had an operation in Israel and won a broadcasting license under HOT cable television but went off air and was banned by the MOC, following an accusation of illegal proselytizing. They were accused of missionary targeting of the Jewish audience and not just Christians, in contravention to their original license;

[54] See Bezeq Digital life 2019-20 report (in Hebrew) at: https://media.bezeq.co.il/pdf/internetreport_2019.pdf

[55] Instagram came third with 52% followers. After WhatsApp, Instagram is the leading app among teens (81%). Tik Tok app has become more prominent, especially among young audiences, considering that 60% of the children in Israel are already active online. (Bezeq Digital life 2019-20 report, *cit.*)

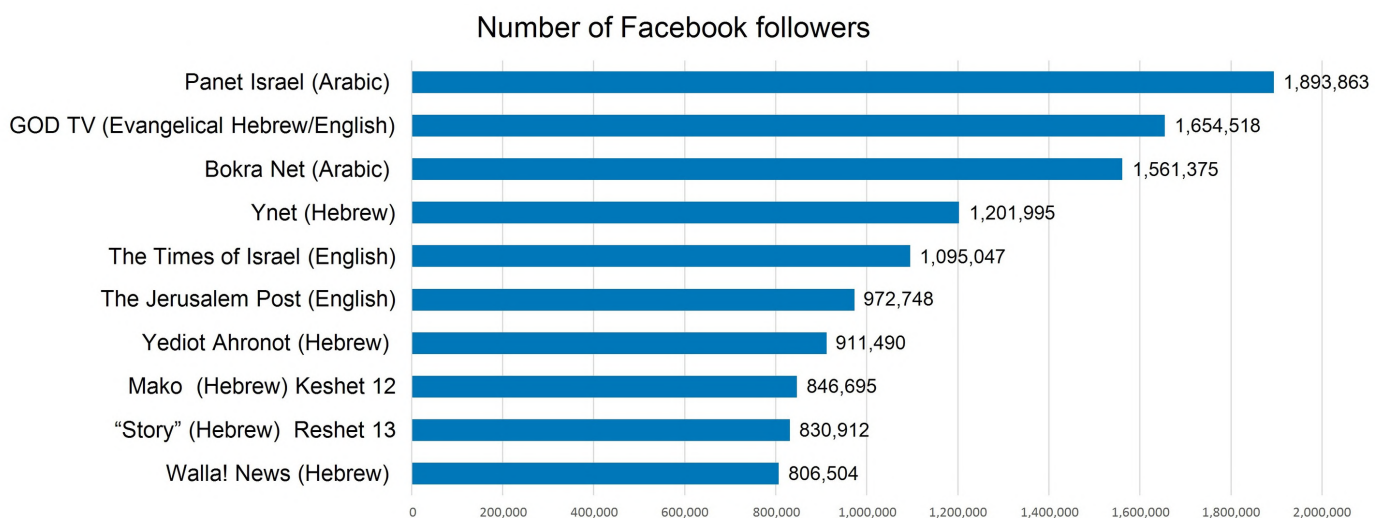
[56] Camela Tiun and Idan Ring, "חטא תת הייצוג: כדי לזכות באמון החברה הערבית, התקשורת צריכה להתחיל לעבוד קשה יותר" (The sin of under-representation: to gain Arab society's trust, the media needs to work harder), Globes, 12 February 2020, available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001317606> (accessed 21 November 2020).

the accusations and the ban probably raised the support among their potential audiences).[57] This is another way of realizing how much conservative evangelical Christians, supporters of Trump and Netanyahu, brand themselves as ardent fans of Israel and what a significant role their huge numbers play in disseminating information, within and without the country.[58]

Israeli Jewish media in English is also very popular, as it caters for English speakers in the country but also to Jewish communities and other English speakers abroad.

The rest of the most popular Facebook pages represent the leading Hebrew media operations in Israel (be it print or television), which correlates with their popularity rates: Yediot Aharnot and its digital platform YNET, Mako, the digital portal of Reshet 12 (channel TV) and “story” (Sipur) a documentary/current affair production by Reshet 13 (TV), and the Walla!News platform, which is a Bezeq subsidiary. Interestingly, radio stations are not included in this list, which means that current affairs and cultural broadcasts produced by the central radio stations are less attractive to an audience that prefers quick and visual content.

Most popular Israeli media pages on Facebook, January 2021



Source: Socialbakers

The Israeli YouTube features the country’s largest media groups that operate in the video/television content segment (Bezeq, Hot, Cellcom and Partner). Children’s channels are dominating the list of the most popular YouTube channels in Israel, the list (six out of the top 10).[59]

HOT TV features high with its original productions and broadcasts for children (HOTVOD Young, Hop, and Luli channels). The Baby channel, known as the most successful Israeli content venture in the world, is now owned by Fox media giant.[60] The Baby channel broadcasts to 70 million households worldwide and in Israel it is distributed through HOT, Yes (Bezeq), Partner,

[57] AFP, “Israel Orders evangelical GOD TV off air”, YNETnews, 28 June 2020, available at: <https://www.ynetnews.com/article/B1nVnbURL> (accessed 21 November 2020).

[58] Jerusalem Prayer Team for example, another Evangelical operation, is the most popular in Facebook’s “all pages” media with about 74.3 million followers, from within and without the country. See Socialbakers, “all media pages”, Israel, January 2021.

[59] This might be the result of the Covid-19 crisis, due to a full country lockdown, having the education system completely closed throughout January 2021. Yet, it also highlights an interesting social tendency that has commercial and cultural implications.

[60] Li-Or Averbach, “כך הפך ערוץ ביבי למיזם התוכן הישראלי המצליח ביותר בעולם” (This is how Baby Channel became the most successful Israeli content venture in the world), Globes, 4 January, 2016. Available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001092800> (accessed 20 January 2020).

and Cellcom. The international Disney Channel has an Israeli operation that broadcasts the company's production in Hebrew, but also produces original content. It is distributed through HOT, Yes and Cellcom TV.

The multichannel Yes and Cellcom TV are more popular than Partner TV, which is not to be found on this list, but as a minor distributor of channels or programs. The Israeli public broadcaster Kan's popularity beats in popularity other news productions in the country, and Reshet media overrides Keshet 12, which is not to be found on the list.

The motion picture

Most watched media YouTube channels, January 2021

Outlet	Number of subscribers	Total views of uploaded videos
HotVODyoung (kids)	441,000	522,773,768
Baby Channel (kids)	459,000	448,994,262
Disney channel (kids)	871,000	448,375,677
Hop Channel (kids)	419,000	352,203,784
Yes TV	496,000	351,486,223
Reshet 13	405,000	324,405,673
Kan educational (kids)	224,000	241,704,790
Kan News	215,000	233,794,795
TV Luli (kids)	227,000	138,632,424
Celcom TV	126,000	47,317,911

Source: Socialbakers

Twitter is the sixth most popular app in Israel (15%) and does not come close to Facebook's huge penetration rate. The media outlets in Israel are aware of the social benefits coming from using Twitter and operate accounts that spread information about what is published on their websites. Nevertheless, they still avoid using Twitter as a tool for creating and managing a space for public discussion. In doing so they are replicating the outdated logic of print media, according to which the newspaper publishes stories that the audience reads, without a solid intention to foster debate around them.

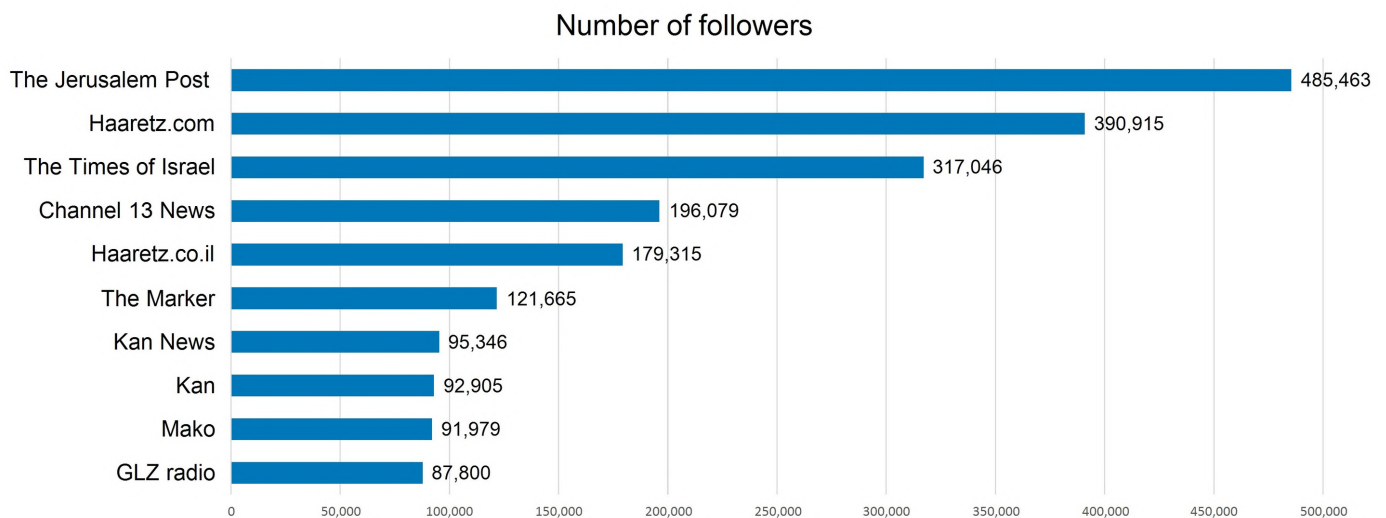
Twitter enables the creation of an infinite number of fake profiles, run by a handful of people or automated software. In recent years, journalistic investigations have managed to verify that the source of thousands of pro-Netanyahu active profiles are in fact based in other countries, and that an automated bot-like software operates some of them. Profiles with random usernames (@x4gtf85k9m) passionately insult anyone who dares to claim that Netanyahu is wrong, wishing cancer to journalists and calling the military and police to suppress anti-Netanyahu protesters. Common people have no way of finding out who runs these profiles. Over time they created a feeling that behind Netanyahu stands an authentic and large popular movement, with an army of ardent supporters.[61]

[61] Yuval Dror, "למה משתמש פלוני מן בחירוף נפש על נתניהו?" (Why does the user @x4gtf85k9m fiercely defend Netanyahu?), Haaretz, 8 October, 2020, available (in Hebrew) at <https://www.haaretz.co.il/opinions/.premium-1.9215772> (accessed 8 October 2020).

On a different note, recently, a public victory over Twitter was recorded as part of an important decision of the Tel Aviv District Court, which enabled Israelis to sue international corporations from within the country. The lawsuit specified that international companies which trade in different countries around the globe should expect to be sued in the countries where they provide services. This is despite the opposition from Twitter that wants to discuss legal claims abroad.[62]

The most followed news media accounts on the Israeli Twitter include some of the most popular media outlets in the country. The leading ones are the three English-speaking digital newspapers The Jerusalem Post, Haaretz.com and the Times of Israel. Haaretz.co.il and its financial arm The Marker have always been strong on Twitter and surpass the other Hebrew speaking dailies' digital platforms. The leading televised news channels are Reshet 13 and Kan News, and the leading portals by TV broadcasters, the public KAN and commercial Mako (Keshet 12) are popular. The military GLZ radio station is the most tweeted radio operation.

Ranking of the most popular media on Twitter in Israel, January 2021



Source: Socialbakers

Ownership and Financial Relations

Technology companies, except for Bezeq, which has been extensively mentioned above, do not have any ownership or financial links with media content producers.[63] They usually do not financially support media enterprises or journalistic initiatives in the country.

[62] Nitzan Shafir, "ניצחון על טוויטר ואפל: התביעות נגדן ינוהלו בביהמ"ש הישראלי" (Victory over Twitter and Apple: the lawsuits against them will be heard in the Israeli court), Globes, 20 January 2021, available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001357876> (accessed 20 January 2021).

[63] For an extensive review of capital-government relationships in Israel see: Tomer Avital, "הון-שלטון-עיתון: מיפוי הזיקות בין" (Capital-Government-News: mapping the affiliations between politicians and the media), Shakuf, 2019, available (in Hebrew) at <https://shkifut.info/2019/04/hon-shilton-eiton/#111> (accessed 30 November 2020).

Telecoms

Broadcasting TV has undergone a dramatic change in recent years due to technological developments, while power relations between the actors and the market are still defined by provisions adopted in the 1990s. By law, content-producing channels (commercial and public) must convey their linear transmission to the multi-channel platforms (cable and satellite television providers in Israel, Yes and HOT), free of charge, while their economic model should be based on advertisements. Thus, cable and satellite platforms receive the linear broadcast with embedded advertising, as it comes from the commercial channels, and are not allowed to sell advertising themselves, nor to produce news programs.

Linear transmission as it existed in the past has been significantly hampered because it competes with digital video recorders. For example, 82% of households have at least one recorder-converter in the house in Israel, which makes it possible to record broadcast and watch it non-linearly and without ads. On top of that, Partner and Cellcom's new television platforms are primarily built on full recording capacity, allowing users to watch the program at their own leisure.[64]

At the same time, television advertising competes with superpowers like Facebook, and with tech ad players like Google, which also presented YouTube to advertisers as a TV replacement. Keshet and Reshet see these international giants, including Netflix, as a significant competitor for viewing time (which translates into rating points) and, as a result, for advertising.

According to Keshet and Reshet, the established commercially run television channels (see Funding Journalism in Media Influence Matrix: Israel), the content they produce occupies a major slot in the menu of HOT and Yes platforms. The viewing share of these commercial channels, while distributed on cable and satellite daily primetime, stands at 54.2%. Keshet and Reshet channels refer to the content they produce as an economic asset and intellectual property. They asked the Folkman Committee on Communications Regulation, which recently convened, to change the law accordingly. Those who make use of their content will have to pay regardless of the type of platform used. In addition, the channels seek to force international providers to invest in local content through a fund set up for this purpose.[65]

HOT representatives argued that the company should be allowed to broadcast commercials and news. According to them, such an enabling legal reform will significantly increase their revenues. Thus HOT could guarantee that all additional revenues generated from advertising will be used to fulfill their obligation to produce original content. This means that more money will be injected back into the market by investing it in local content.[66]

In a separate development, in 2014, the Knesset plenum approved the amendment to the Communications Law (section 51C), which extended the principle of net neutrality to all operators in the communications market, including internet access providers, infrastructure companies and multi-channel broadcasting companies.[67]

[64] Anat Bein-Lubovitch, "קשת ורשת לוועדת פולקמן:אפשרו לנו לגבות תשלום מיס והוט על תוכן" (Keshet and Reshet to the Folkman Committee: Allow us to charge HOT and Yes payment for our content), *Globes*, 18 November 2020, available (in Hebrew) at <https://www.globes.co.il/news/article.aspx?did=1001349988> (accessed 19 November 2020).

[65] Anat Bein-Lubovitch, Keshet and Reshet to the Folkman Committee..., *cit.*

[66] HOT and Yes are required to invest 8% of their total revenue in original content. (Anat Bein-Lubovitch, Keshet and Reshet to the Folkman Committee..., *cit.*)

[67] ISOC publication: "נייטרליות הרשת – הזווית הישראלית" (Net Neutrality – the Israeli Angle), 19 December 2017, available (in Hebrew) at: <https://www.isoc.org.il/freedom-of-internet/net-neutrality/net-neutrality-the-israeli-angle>, accessed 20 December, 2020

In Israel, there is almost no public debate about net neutrality.[68] Except for the Israeli Internet Association (ISOC-IL) that actively works on designing neutrality principles, there is no real lobby of strong companies fighting for or against it, thus the public remains largely unaware of the issue. Cases of violations of net neutrality in Israel are not sufficiently documented.

Nevertheless, in 2019, an international study revealed that the Israeli mobile provider HOT Mobile is slowing down traffic to YouTube. A study by researchers at Northeastern University and Massachusetts-Amherst found that HOT limits YouTube browsing speeds to a maximum of 1.5 megabits per second. According to the data, the speed limit for surfing was identified in 70% of the tests performed in the study.[69]

This slowdown allows providers to use their infrastructure more efficiently and to benefit from broadband allocation to business customers, or to specific online services over others.[70] Although in the HOT case no particular implications for journalism were evident, it could signal a hazardous slippery slope towards internet inequality and de-democratization. What today counts as a slowdown in one video service could later lead to the separation and discrimination of other communication services. Imagine a situation where HOT Mobile decides to allow quick access to the content of news companies related to it, and on the other hand slows down competitors.

The Business of Disinformation

Disinformation becomes a troubling phenomenon for the Israeli society for three reasons.[71]

First, Israelis widely use social media as a source of political information (76%, at least once a day). False news circulates on social media faster and runs deeper than true news.

The second reason lies in the cognitive aspects of disinformation consumption. False information may seem very realistic and more memorable, especially when it evokes deep emotions. In addition, people believe family and friends more than they believe strangers, especially in a collectivist society like Israel. Hence, false information disseminated on social media by relatives is more likely to become part of people's beliefs and opinions.

Surprisingly though, 58% of the Israeli public think that the mainstream media (press, radio and television) produce more true news than false output. In contrast, less than a quarter of the Israeli public (22% of Jews and 29% of Arabs) think the same about social media. That is a huge gap of trust between institutional media and (low trust in) social networks. The Israeli public is thus exposing a major paradox, using sources of news they do not really believe.

Interestingly, it turns out that users do this because they are self-confident about their ability to identify biased and problematic information, even though studies have shown that can be truly

[68] Net neutrality principles state that network providers will provide the same service for all types of data streamed through them, regardless of the type of website that contains this information, its size, its economic capabilities, its geographical location, its goals and the content it represents. This principle also applies to users: it will receive the same treatment regardless of their location, demographic characteristics or purpose of use.

[69] See: <https://wehe.meddle.mobi/papers/wehe.pdf> (accessed 21 December 2020).

[70] Omer Kabir, "מחקר אמריקאי נרחב גילה: הוט מוביל מאיטה בכוונה את הגלישה ביוטיוב" (Extensive U.S. research has revealed: HOT Mobile is deliberately slowing down YouTube browsing), *The Calcalist*, 22 August 2019, available (in Hebrew) at <https://www.calcalist.co.il/internet/articles/0,7340,L-3768617,00.html> (accessed 20 December 2020).

difficult, and most of them will not be able to tell true from false. This conduct makes the public vulnerable to manipulation to an extent and depth that Israel had never known before.

The third reason stems from the economic factor and the business model of social media platforms (Facebook, Twitter, YouTube and others). To create user engagement as a way to increase their profits, they use algorithms that collect private information and target users based on their behavioral profiles and belief systems. In addition, the pressure points these platforms have on governments to continue to grant them the exemption from liability for what transpires within the platform also serve the economic factor. In the September 2019 elections, it took Facebook a day to close the Likud's messenger platform for a disturbing post which noted that the Arab citizens of Israel "want to destroy us all - men, women and children."

Even then, Facebook shut it down only temporarily. This seemingly minor example illustrates the bigger and troubling picture: platforms are far from being neutral players as they benefit from disinformation, according to Prof. Karine Nahon, the president of the Israel Internet Association. Although there has been a process of change among the American legislators in the last two years, with harsh hearings of platforms' managers, there is still a strong motivation of the latter to promote paid political campaigns over non-paying ones, according to Nahon who added: "When Zuckerberg states that Facebook is the platform of freedom of expression, he neglects to mention that Facebook is the platform for politicians and politics, as long as you have money. Facebook punishes politicians who do not pay for sponsored ads." These ads, especially if based on populist style, attract clickbaits and could rapidly disseminate fake news or wrong ideas.

Prof. Nahon agrees that the social media companies in Israel indeed try to react more than before against disinformation on their platforms, but they still do not act strongly, transparently or quickly enough. Prof. Nahon anticipates a much deeper regulation of the social platforms in the near future, even at the price of limiting freedom of expression, as "we have reached a stage in time, when red lines should be made clear." [72]

An INSS paper from 2019 mapped about 20 Israeli startups working on countering disinformation in three different categories: bot network detection; identifying false information and verifying facts; and identifying and preventing the distribution of fake videos and sound (Deepfake). [73] But such products are not mostly intended to address disinformation on social media. Some serve the security and intelligence systems of various countries, and others are intended for commercial organizations that fear the financial and reputation harm that can be triggered by fake news. [74]

There are very few initiatives combating disinformation that originate from institutionalized media in Israel. The prominent ones are The Seventh Eye that serves as a critical media review

[71] Tehilla Shwartz Altshuler, The truth about fake news, *cit.*

[72] A transcribed audio interview (in Hebrew) with Prof. Karine Nahon at the Dot.IL podcast of the Israel Internet Association, "כיצד רשתות חברתיות משפיעות על העמדה הפוליטית שלנו?" (How social networks influence our political position?). See: <https://www.isoc.org.il/wp-content/uploads/2020/10/transcript-how-does-facebook-affect-our-political-position.pdf>, 10 November 2020 (accessed 13 March 2021).

[73] Inbal Orpaz, "טכנולוגיות נגד פייק ניוז: כשל שוק או הזדמנות מפוספסת", (Fake news technologies: market Failure or missed opportunity?), INSS, 22 August 2019, available (in Hebrew) at:

<https://www.inss.org.il/he/publication/%d7%98%d7%9b%d7%a0%d7%95%d7%9c%d7%95%d7%92%d7%99%d7%95%d7%aa-%d7%a0%d7%92%d7%93-%d7%a4%d7%99%d7%99%d7%a7-%d7%a0%d7%99%d7%95%d7%96-%d7%9b%d7%a9%d7%9c-%d7%a9%d7%95%d7%a7-%d7%90%d7%95-%d7%94%d7%96%d7%93/> (accessed 27 October 2020).

[74] To name a few startups: Cyabra, Communit360, Rootclaim, VineSight, AdVerif.ai and Serelay, *ibid.*

site, the Whistleblower by Globes newspaper, which also does fact-checking analysis, KAN 11 channel that broadcasts a daily program titled From the Other Side, which focuses on analyzing and exposing gaps between facts and disinformation, and Channel 13 News that recently had an unusual initiative of checking facts live during Prime Minister Netanyahu's speech.[75]

The institutionalized media were supposed to be more aggressive in fighting against disinformation. Yet, since most of them are on a verge of a crash in the absence of a feasible business model, and since they benefit from false news, just as much as social networks do, it does not seem reasonable to rely on them on this matter.

[75] It is still not clear whether Netanyahu's performance fact check was a one-time deviation from the usually cautious media coverage given to the Prime Minister. See Idan Ring, "מי שבודק לא מפחד" (Whoever checks, shall have no fear), The Seventh Eye, 6 December 2020, available (in Hebrew) at <https://www.the7eye.org.il/397449> (accessed 7 December 2020).



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