PARTICIPANTS IN THE NINTH EDITION OF THE WORLD INTERNET PROJECT

Cyprus
Cyprus University of Technology/Department of Communication and Internet Studies
www.cut.ac.cy/

Middle East
Contact: Justin Martin, justin.martin@northwestern.edu
(Egypt, Lebanon, Qatar, Saudi Arabia, Tunisia, United Arab Emirates)

France
M@rsouin Network
www.marsouin.org

Sweden
IIS (The Internet Infrastructure Foundation)
www.iis.se
www.wii.se

Taiwan
Taiwan e-Governance Research Center
Department of Public Administration
National Chengchi University
www.teg.org.tw
http://pa.nccu.edu.tw

United States (Organizer)
Center for the Digital Future
USC Annenberg School for Communication and Journalism
www.digitalcenter.org

For the complete list of international partners in the World Internet Project, see page 44.
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International Report
Ninth Edition

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QUESTIONS
info@digitalcenter.org
Center for the Digital Future
USC Annenberg School for Communication and Journalism
11444 W. Olympic Blvd., Suite 120, Los Angeles, CA 90064
(310) 235-4444
www.digitalcenter.org / www.worldinternetproject.net
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Welcome to the findings of the World Internet Project (WIP).

This report represents the ninth published results of the World Internet Project, collaboratively produced by the Center for the Digital Future in the USC Annenberg School for Communication and Journalism in the USA along with partner countries worldwide. This work on the impact of the internet has evolved during 14 years of exploration and reveals an international picture of change brought about by online technology.

The internet has transformed entertainment, communication, information-gathering, and education across the globe. However, the scope of change varies widely from country to country—a prime reason for a comparative international study.

We originally created this project in 1999 because the internet represents the most important technological development of our generation; the effects of the internet may surpass those of television and could someday rival those of the printing press. By beginning our study of the internet early in its evolution, we have built a broad base of knowledge and analyzed the effects of the internet as it evolves, and not as postscripts after it has matured.

To achieve our objectives, the 30 countries that are partners in the World Internet Project conduct surveys of individuals in thousands of households, compiling the responses of internet users and non-users age 18 and older. We explore how online technology affects the lives of internet users, and how their views and behavior differ from those of people who are not online.

The World Internet Project partners are expanding their explorations of internet use as technology is transformed. When new types of access become available—such as the growth of broadband almost a decade ago, or other methods now unknown come tomorrow—the project will track them.
The World Internet Project: why an ongoing study of the internet?

The research conducted by the global network of partners in the World Internet Project differs from most other studies of online technology in three principal ways:

1. **The World Internet Project looks at the social impact of the internet**
   
   Most internet studies gather data about who is online, how long they are online, and what they do online. The World Internet Project also compiles this information, but then examines the implications of the use of online technology, and links this use to a broad range of values, behavior, attitudes, and perceptions.

2. **The project focuses on internet non-users as well as users**
   
   The World Internet Project follows how the behavior and views of internet users differ from those of non-users.

3. **The World Internet Project engages government and private industry decision-makers who can create policy based on our findings**
   
   Our work involves public and private organizations that use our results. Many WIP partners work closely with corporations – some of which are direct competitors – and foundations, all of whom are engaged with us in an ongoing dialogue about the issues we explore in our studies.

The World Internet Project: key areas

As you will see in these pages, the World Internet Project includes findings that compare the actions and views of internet users and non-users. The report is organized into nine general subject areas:

- Internet users and non-users
- Politics and the internet
- Media reliability.
- Online security and personal privacy
- Keeping connected through the internet
- Research, education, and jobs
- Buying, selling, and financial management
- Online entertainment and personal interest

We hope these findings from the World Internet Project will enlighten you about the many ways in which online technology is transforming our world.

Jeffrey I. Cole, Ph.D.
Director, USC Annenberg School Center for the Digital Future
Founder and Organizer, World Internet Project
WORLD INTERNET PROJECT
International Partners
Status Reports
The internet in Cyprus

Contact: Cyprus University of Technology/Department of Communication and Internet Studies
www.cut.ac.cy

By Xiaopei Wang

Cyprus, officially the Republic of Cyprus, is the third largest island in the Mediterranean Sea. With 37 percent of the territory occupied by Turkish forces, the island is geographically and politically divided in two entities: the Greek-Cypriot community in the South and the Turkish-Cypriot community in the North. The country joined European Union (EU) on May 1, 2004 and has created a modern and open business environment since then. Located at the crossroads of Europe, Asia, and Africa, Cyprus has developed into an international business and financial center.

The total number of Internet users in Cyprus is 971,369, 81.7 percent penetration at the end of 2017. According to the Digital Economy and Society Index (DESI) 2018 Report, published by the European Commission, Cyprus ranks 21st out of the 28 EU Member States. With a score of 49.3 (average 43.5), the report states that “Cyprus is progressing slowly but steadily.” The also report notes that Cyprus performs well in fixed, fast, and ultrafast broadband coverage, but lags behind in 4G coverage, fast and ultrafast broadband uptake, and the broadband price index.

The country has witnessed a relatively rapid expansion in its proportion of households having broadband access to the internet, with an increase of 17 percentage points between 2012 and 2017.

Cyprus communicates with the world via a submarine fiber optic cable network, which directly connects to Greece, Italy, Israel, Syria, Lebanon, and Egypt. The Cyprus Telecommunications Authority (CYTA) owns the network at the Cyprus end. CYTA, only fully privatized in July 2018 after sale to Vodafone Greece, remains the dominant telecommunication and internet service provider in this country. However, in recent years the company lacked resources to invest in a fiber network and has seen a decline in its share. In May 2018, CYTA launched a Fiber to the Home (FTTH) service with speeds of over 200 Mbps, providing higher quality and more reliable connection. The upgrade is a huge step for Cyprus. Currently, only four percent of Cypriot users have speeds of 30 Mbps. Experts believe that FTTH will lead the country into the Digital Age.

Meanwhile, mobile internet usage in Cyprus has experienced a rapid growth: it doubled each year over the past three years. In the summer of 2018, Cytamobile (Vodafone’s network) saw an 80 percent rise. Last summer Cyprus consumed approximately 1 million GB, and the figure reached 1.8 million GB in summer 2018.

Following market liberalization after joining the EU, many private telecommunications companies emerged in Cyprus. MTN, one of the leading operators, doubled mobile internet speeds by increasing its network capacity by 100 percent in early 2018. And after its acquisition by Monaco Telecom, the company ramped up its investment on services and infrastructure. Now it has the widest 4.5G network in Cyprus and aims to extend its reach. This will help boost mobile internet usage to some extent.

Although Cyprus has a low level of regular internet users, current users are active and engaged in online activities such as listening to music, watching films, and playing games (86 percent); reading online news (80 percent); and participating in social networks (78 percent).

Cyprus is sometimes referred to as a “social-media island.” According to a study carried out by researcher and social psychologist Paul McEvoy, in 2017 the island had the highest percentage of Facebook users in Europe (94 percent). McEvoy argued that living in a small, close society is the key reason behind this phenomenon.
The internet in Egypt

Contact: Justin Martin, justin.martin@northwestern.edu

By Particia Ngo and Elaine Shin

According to Freedom House, a non-governmental organization that conducts research on democracy, political freedom, and human rights, Egypt’s poor telecommunications infrastructure and high costs are obstacles to universal internet access. In terms of infrastructure, large areas of the country are not connected to the landline telephone grid. Prices are relatively high due to the dominance of state-owned internet providers. Consequently, the country’s poverty level makes broadband internet inaccessible for many households.

Fixed broadband in Egypt is slower than in that of other countries in the region such as Algeria and Sudan, with an average download speed of 4.02 Mbps. The speed of fixed broadband fluctuates throughout Egypt. The capital city, Cairo, has the fastest fixed broadband connection with an average download speed of 6.54 Mbps, while the city of Al Mahalla El Kubra has an average download speed of 2.74 Mbps.

In April 2017, there were bombings of two churches in Tanta and Alexandria, and the country was placed in a state of emergency. Under emergency laws, the authorities increased censorship measures on the media, including social media sites on the internet. According to Amnesty International, Egypt’s counter-terrorism include sentences of up to 15 years of prison to individuals promoting terrorism online. As of late 2018, more than 500 websites, including international news outlets such as the Huffington Post Arabic, have been blocked.

Egyptians often use the internet as a search or communication tool. Concerning the latter, they typically prefer connecting with each other through direct messaging and social media, especially Facebook, where they can post their own content or share others’. However, with the recent aggressive wave of censorship targeting any Egyptian posting or sharing content that is potentially harmful to the government, this social net activity has declined.

Usage of social media platforms to interact with friends increased during 2017. Facebook, WhatsApp, YouTube, and Instagram were the main platforms with Instagram seeing the most growth. Instagram had the most growth, but Facebook is still the most popular site.

As of 2017, Egypt was the first country to use UNCTAD’s ICT Policy Review (an integrated e-commerce diagnostic framework) to implement a national e-commerce strategy. Using the internet to trade in products or services may not be new, but the strategy as laid out in the publication is innovative.

Additionally, there have been developments in financial technology. With FinTech, banks allow citizens to use mobile wallets. New FinTech startups have automated services for various organizations.
The internet in France

Contact: M@rsouin Network
www.marsouin.org

By Xiran (Emily) Zhou

France has one of the highest internet penetration rates in Europe. The most popular way to access the internet is through a smartphone; 94 percent of internet users own one.

The backbone of France’s internet connectivity consists of interconnected ISP-run networks.

The “Loi Macron” reforms, approved in 2015, required operators to provide 3G/4G coverage by 2017. This led to an improvement in broadband coverage, but some rural areas still do not have high-speed LTE. A plan to provide high-speed broadband throughout the whole country by 2022 will cost around 20 billion euros (22 billion in US dollars). Private service providers will install networks in metropolitan areas, while local authorities will install public networks outside these cities to fill any connectivity gaps.

The French government does not generally block websites or any online content for political reasons. However, the terrorist attacks on the Charlie Hebdo office in November of 2015 led to the government censoring terrorist-related content. At the same time French regulators as well as internet users have to deal with disinformation and fake news spread over the web. For instance, during the presidential election in 2017, a huge amount of false information was distributed on the internet to attack candidate Emmanuel Macron in an attempt to undermine his campaign. In May 2017, the National Assembly passed a bill aimed at punishing websites distributing disinformation about abortion. After he was elected, Macron announced in January 2018 that he would introduce a new law to combat fake news online by the end of 2018, which has duly raised concerns about its potential threat to freedom of speech.

The French government, with a mindset for stronger regulation of social media over privacy matters, has had clashes with Silicon Valley CEOs, and such confrontation has resulted in lower social media usage in France compared to other European countries. In spite of privacy concerns, social media are still prevalent among those aged 25 or younger, as 88 percent of them are regular users. In contrast, only 38 percent of those over 55 use social media. The most popular social media networks are Facebook, YouTube, Twitter, and Instagram.
The internet in Lebanon

Contact: Justin Martin, justin.martin@northwestern.edu

By Cam Vernali

Lebanon has seen a rapid increase in internet development in the past couple years, not just in usage penetration but in the speed and efficiency of the internet itself.

As seen in other countries, age affects the amount of time spent on the internet. Eighty-nine percent of those between 18-34 use the internet in Lebanon, while only 50 percent of those 35 and older do. On average, people have been using the internet there for about 8-9 years. Those aged 18-24 are nearly four times as likely as 60+ year-olds to use the internet.

The telecommunication industry, mobile phone industry, and internet network in Lebanon are primarily owned by the government. The government also exercises considerable regulatory power. In August 2014, the mobile network was shut down entirely by the government for security reasons in the northeastern town of Arsal. It was not restored until September 2017. Censorship online has been increasing as well. Though the internet is readily accessible on social media or ICT apps and internet users can access diverse resources globally, as many as 50 percent of websites are blocked; many of those are related to gambling, Israel, and escort services.

On April 6, 2018, during the international conference in support of Lebanese development and reforms (CEDRE), the Lebanese government shared its Capital Investment Plan (CIP) which would implement a long-awaited infrastructure overhaul. In CIP, $700 million will be spent on the telecom sector. Other projects include the National Cloud Platform program by Ogero, which aims to establish a datacenter and national cloud to be used by governmental agencies as well as the private sector. Another project involves the National GSM Network, which aims to introduce 5G.

In June 2017, the state-owned telecom company Ogero and other private ISPs slashed internet prices by an average of 50 percent and promised to upgrade telecom infrastructure. In October 2017, the Central Bank Governor Riad Salameh announced that the Bank of Lebanon will launch its own digital currency in the next few years. If carried out, this should foster considerable development in the digital economy. And promisingly, on February 13, 2018, Lebanon announced that it will initiate a wide-scale fiber optic cable project costing $300 million to replace its outdated copper wire infrastructure over the next four years. This will boost the country’s internet speed considerably.
The internet in Qatar

Contact: Justin Martin, justin.martin@northwestern.edu

By Min Kyeong and Erick Andalon

Qatar is one of the richest countries in the world, having benefited vastly from its natural gas and oil resources. At the same time, it maintains very low tax rates. In early 2017, Qatar’s total population was 2.6 million, with non-Arab foreigners making up the vast majority of Qatar’s population.

Qatar is restrictive when it comes to internet censorship, with many rules that are related to Islamic practices. The government vigorously censors pornography and other sex-related materials including dating services and homosexual/gay content. It also bans any software that could help one overcome the censorship laws.

The Constitution of Qatar guarantees freedom of speech for its people, and Qatar as a nation is freer than other Arab nations. But on the internet and in the newspapers political critiques are typically directed against important figures in other Middle East countries rather than targeting Qatari government officials.

The two major internet service providers in Qatar are Ooredoo and Vodafone, with Ooredoo being a state sponsored company. Qatar has very modern internet services, including fiber cabling to allow its locals to utilize high-speed internet over the slower fixed-line phones. Internet fiber cabling is installed throughout the country with the help of another government-owned organization known as the Qatar Broadband Network. Ooredoo also plays a major role in examining and censoring internet usage by the people of Qatar.

The diverse population of Qatar has resulted in several notable trends regarding the usage of social media. Native Qataris prefer to use newer and more “youthful” social media sites such as Instagram or Snapchat. A significant majority of them also use WhatsApp while only a minority of Qataris use Facebook. Many Qatari people are aware of all the different social media platforms, but only choose to utilize a selection of them, typically the newer ones. Qatari people are also very aware of the potential consequences and ramifications of social media, including the possible spread of lies and rumors online.

Currently, Qatar is “suffering” from an embargo that was set by the other nations of the gulf. Six nations, including Saudi Arabia and the United Arab Emirates, have placed significant economic sanctions against Qatar, accusing the nation of supporting terrorist organizations. The closing of airways and cessation of food from Saudi Arabia are two of the bigger hardships, but the Qatari response has been resolute. The nation has more than weathered this crisis, for example by enhancing its own food industry and expanding its trade affiliations with other countries such as Oman and Turkey.

Social media has responded to the Qatari crisis, with people voicing a mixture of emotions about the predicament. One inflammatory hashtag that circulated around Twitter was #Qatarfundterrorism, accusing the country of having ties with the Islamic terror groups. Another hashtag that was in support of Qatar was #Qataristomach, which mocked an editor who had incorrectly anticipated the difficulty of Qatari people of adapting to new foods from new trade partners.

Qatar has also published a website titled “Lift the Blockade” to explain the current situation in the gulf. It discusses the country’s position on the matter and argues how the issue is not one of funding terrorism, but rather one of having an independent foreign policy and sovereignty. The website also highlights the media freedom in the country. Qatar is especially adamant of maintaining Al Jazeera, its state-controlled media platform that the other countries in the region have criticized.
The internet in Saudi Arabia

Contact: Justin Martin, justin.martin@northwestern.edu

By Xin Song

In 2018, the internet and communication technologies in Saudi Arabia continue to enjoy rapid growth. Due to the economic and social reform strategies employed by the government the total number of internet users reached 24.5 million.

The Communications and Information Technology Commission (CITC) is the governing body of internet service in Saudi Arabia. CITC not only controls the prices of the internet services but also monitors the media content on social networks. Among all the countries in the world, Saudi Arabia has the highest percentage of active internet users on Twitter. However, when it comes to the discussion of politics, religion, or the royal family, users are extremely cautious. These topics are under heavy surveillance by the government. As a result, a rise of self-censorship on the internet is quite prevalent around the country.

In November 2017, Saudi Arabia established a new anti-terrorism law which defines nonviolent political, social, and religious offenses as “terrorism.” In the past 12 months, many outspoken online activists have received jail sentences. The murder of journalist Jamal Khashoggi in October 2018 is widely believed to have been ordered by the highest levels of the Saudi Arabian government. In Khashoggi’s last column for the Washington Post, which was published after his death, he called for freedom of expression on the internet. Following his death, it was reported that the government employed an electronic army to suppress the negative reviews on social media to silence critics.

Although internet content is monitored strictly, there have been several online campaigns that raised public awareness. In 2018, two sexual harassment incidents on social media aroused public attention and broke the silence on violence against women in the country. Nonetheless, in general, with continued censorship and related punitive measures taken by the government, internet freedom was not advanced in Saudi Arabia in 2018.
The internet in Sweden

Contact: IIS (The Internet Infrastructure Foundation)
www.iis.se

By Annika Anderson

Since first going online 30 years ago, Sweden has become a society defined by digitization. Sweden has the fourth highest rate usage in the world—and that number is increasing independent of generation. In addition to usage, Sweden is at the forefront of communication infrastructure, technological innovation, progressive policy making, and internet freedom. Sweden provides some of the cheapest and fastest internet service worldwide. It is also ranked first out of 61 countries as the nation where the internet has had the greatest political, social, and economic impact.

The introduction of smartphones to the marketplace has increased digitalization. With 84 percent of Swedes using the internet on their phone and 98 percent of Swedish 11-year-olds owning a mobile device, internet literacy is becoming increasingly widespread. A majority of Swedes use social media apps like Facebook, Instagram, and Twitter to communicate with one another and this has bred a vibrant internet culture. However, with this vibrancy has come significant discourse over internet policy, property, and access.

While maintaining its intellectually free and neutral public persona, Sweden has faced criticism over issues of net neutrality and intellectual property. While unauthorized file sharing has always been illegal, there have been insufficient means to prosecute alleged “pirates.” The absence of proper legal tools has allowed for a certain level of acceptance of this type of crime within society. In fact, Sweden was the birthplace of one of the most notorious file-sharing websites, The Pirate Bay, and first pro file-sharing political “pirate party.” In 2009, in an attempt to combat cyber-crime, the Swedish parliament was the first in Europe to pass a law implementing the intellectual property rights directive (IPRED). In addition, the Swedish government granted the National Defense Radio Establishment (Försvarets Radio Anstalt) surveillance power over significant online activity in the name of national security. In terms of net neutrality, similar issues have arisen. The Swedish government publicly supports the principle that internet service providers should treat all online content equally but have little legal infrastructure to enforce this. In fact, multiple Swedish telecommunications companies have attempted to limit access to certain services, such as Skype, but have been prevented from doing so by public opposition.
The internet in Taiwan

Contact: Taiwan e-Governance Research Center, Dept of Public Administration, National Chengchi University
www.teg.org.tw
http://pa.nccu.edu.tw

By Wencheng Jiang

Taiwan, while performing well in terms of 4G coverage, ranks 12th worldwide, and in terms of 4G network speed, it ranks 14th with an average score of 28.09Mbps. The latest survey on Taiwan broadband internet usage shows that there are 18.79 million internet users in Taiwan as of February 2018. Statistics from the National Communications Commission (NCC) shows that the number of mobile subscribers was 28.92 million by the end of August 2018.

A strategy called “e-government” in Taiwan was divided into six stages when it was designed. Now Taiwan is at the fifth stage, where e-government aims to provide people-oriented and convenient services; implement open, transparent and intelligent governance; and optimize data analysis and decision-making efficiency.

Taiwan has put a huge effort and money into capturing internet of things (IoT) market share. The technological development of IoT has also been included in the Taiwan “5+2” industrial development plan. As reported by the National Development Council, the government has already invested much capital in internet infrastructure, mobile broadband services, e-commerce, smart applications, test beds, industry-university collaboration, digital talent, and regulatory adjustment.

Taiwan has been working to open the larger Chinese market to its agricultural products, but it has encountered difficulties finding sustainable Chinese distributors. But with the help of the “Internet+” strategy, Taiwanese agricultural products are placed on a Chinese fresh food e-commerce platform. The Taiwanese government also has adopted an online-to-offline commerce (o2o) logistics system for the agricultural sphere. It has worked to change local farmers’ way of thinking and helped them learn e-commerce marketing skills.

In order to promote the tourist trade, Taiwan also caters to the consumption habits of tourists from foreign countries. In this light, Taiwan’s Pay QR Code began accepting UnionPay transactions in December 2018, in addition to Pay, Visa, MasterCard, and JCB.
The internet in Tunisia

Contact: Justin Martin, justin.martin@northwestern.edu

By Wei-Chien Liao and Alex Tsai

In the not too distant past, the Tunisian government strictly suppressed and controlled the mass media. But through mass protests, sparking the Arab Spring and overthrowing President Zine El Abidine Ben Ali in 2011, the Tunisian people overcame these restrictions. They also managed to make large strides in overall technological progress and information accessibility, creating some of the most sophisticated telecommunication and broadband infrastructures in North Africa. Despite considerable progress towards freedom of expression on the internet and nationwide access of the web, recently there has been stagnation due to the continued use of penal codes that prosecute those who supposedly defame the government.

When the autocrat Ben Ali was ousted, much of the overarching censorship framework dissipated, but as internet users can still be prosecuted for defamatory content against political bodies, censorship is still an issue. In February 2017, a whistleblower protection law was passed to provide legal protection to those who reveal evidence of corruption. But at the same time new bills were proposed in parliament to criminalize online defamation. The 2014 Constitution, though firming support for freedom of speech and press, also contains vague language that can be used to arbitrarily censor and criminalize speakers online. There is also censorship legislation from Ben Ali’s time still on the books. Consequently, bloggers and online activists are still being arrested for various reasons, though some are acquitted or released early.

Yet, relative to the rest of the region, the online landscape of Tunisia is rather free and unhindered with spirited debate on even the most sensitive topics like religion. In November 2018, Tunisia even held an international journalism forum that attracted hundreds of journalists from nearby Arab and French-speaking nations, generally impressing visitors with Tunisia’s progress and stance on free expression and mass media issues in general. Apps and social media, such as YouTube and Facebook, and other blogging/journalism services are popular and mostly free from political censorship. Accordingly, digital activism is engaged in by Tunisian civil rights groups. Again, freedom of expression is upheld most of the time. For example, in February 2018 the Tunisian appellate courts rejected an appeal to take down Shams Rad, Tunisia’s first LGBT online radio station. Nevertheless, the authorities do actively coordinate with social media platforms to suspend pages that promote dangerous content that incites violence, encourages teen suicide, or promotes extremism. And although Tunisian legislation require Internet Service Providers (ISPs) to monitor and ensure that no unsavory information spreads, there is little evidence that there are forces compelling them to remove political or social content.

Beyond matters of internet freedom, with dictatorial control over the media removed in 2011, internet access overall has grown significantly with the legalization of non-government regulated internet cafes, fair accessibility and pricing, and a strong optic fiber connection. However, the state-controlled Tunisie Telecom (TT) still has a large monopoly over the country’s internet backbone, leading to worries that internet access maybe be jeopardized in the future. However, in 2014, some private operators joined the market to lessen TT’s grasp on the internet pie. Furthermore, contracts have been signed with foreign operators like Huawei and Vodafone to build LTE networks. And in July 2017, the government announced a five-year plan to increase internet access and coverage throughout Tunisia. With all these developments Tunisia is a relative beacon of freedom and progress in a region that all too often suffers from involuntary silence.
The internet in the United Arab Emirates (UAE)

Contact: Justin Martin, justin.martin@northwestern.edu

By Leon Cho and Qingyi (Elisia) Xi

Ranking second among Arab states in the United Nations ICT Development Index and 40th overall, the United Arab Emirates (UAE) has the highest internet penetration rate in the Arab world, and is among the first countries to offer 5G via one of its biggest telecommunication providers, Etisalat.

Social media has become very popular with internet users in the UAE; it is estimated that internet users in the UAE spent close to three hours per day on social media in 2018. Some of the top social media platforms are Facebook, YouTube, and Instagram, all with over half of the internet user population active on them. Internet users are also interested in the chat and messaging functions of the internet or social media platforms. Over 80 percent of them use WhatsApp, more than 60 percent use Facebook Messenger, and over 30 percent use Snapchat.

As in other parts of the world, online streaming service has caught on in the UAE, providing entertainment and sports content. In this arena, international service providers such as Netflix, Amazon Video, HBO Now, and Hulu are competing with regional providers such as icflix, OSN Play, and Eros Now.

While the UAE is a very modern and developed country with considerable technological advancement, the media is strictly regulated. In 2017 a new cybercrime law was passed. Subsequently the world witnessed the imprisonment of users like Nasser Bin Ghaith who used social media for political speech. The country’s telecommunications industry is largely controlled and censored by the government, which holds a majority stakes in the country’s two largest internet service providers, Etisalat and Du. The control over these large internet service companies allows the government to maintain VoIP restriction, strict surveillance of usage, and considerable censorship of data and information.
The internet in the United States

Contact: Center for the Digital Future  
www.digitalcenter.org

By Jian Wang

The United States is the birthplace of the internet. On October 29, 1969, the first message of ARPANET, a network sponsored by the Advanced Research Projects Agency of the U.S. Department of Defense, was sent from the UCLA site to the Stanford Research Institute. The sharing of information digitally from this first node of ARPANET unveiled the dynamic internet revolution. In the half century that followed, the United States has not only laid the foundation for the world internet of today, but also been a leading model in propelling human society into the information age.

By the year 2018, the internet had become an indispensable part of life for most Americans, as it has been deeply woven into the social and economic life of American households. Access to the internet has steadily been on the increase since the beginning of the 21st century. With dial-up technology becoming obsolete, U.S. households primarily are using fixed and mobile broadband to access the internet. By the end of December 2017, the United States had 312.32 million internet users. Not surprisingly, the smart phone is the most commonly used device in accessing the internet.

Access to the internet varies by age, income, and education. Moreover, urban areas enjoy a wider usage of the internet than rural areas. According to a report by the Federal Communications Commission (FCC), just 4 percent of Americans in urban areas lack access to high-speed internet, whereas some 39 percent of rural Americans — roughly 23 million people — do not have access to broadband services. In an effort to facilitate penetration of the internet into rural areas, the federal government vowed in 2018 to make efforts to accelerate the deployment and adoption of affordable broadband in rural America.

The economic contribution of the internet has been estimated at approximately six percent of the GDP in the United States. However, that figure certainly significantly underestimates the contribution by overlooking increases in productivity instigated by the internet in traditional industries such as manufacturing. New models of business in the digital economy burgeon every day in the United States, e.g., Amazon opened the first cashier-less store nationwide by employing mobile information technology in 2018. With smartphones, shoppers can truly taste the grab-and-go experience without worrying about paying in line. With Amazon planning on opening 3,000 more cashier-less stores in the next couple of years, the operation of brick-and-mortar stores may be drastically changed in the next several years.

In 2018, both Apple Inc. and Amazon made history by crossing the once-unimaginable line of $1 trillion in stock market value. Both companies took off decades ago by seizing up the opportunity of the internet age, and both businesses pushed forward the digital economy. Their stock values explicitly show a strong confidence in the ever-increasing importance the internet plays in American life.

The past several years also witnessed the rise of digital currencies. Bitcoin and Ether, among many others, aroused great interest from economists, investors, and the general public. Digital currencies are often created without a central bank or single administrator and can be sent from user-to-user on the peer-to-peer network. For example, each Bitcoin address is unique. It cannot be forged or falsified by any known technology. With a central bank serving as an intermediary, digital currencies are considered an ultimate democratic tool for human society.

However, digital currencies have been criticized for their use in illegal transactions, their high electricity consumption, and most importantly their price volatility. The trading of Bitcoin became so popular that the price reached a height of $19,783.06 on Dec 17, 2017. In the months that followed, the price dropped precipitously to less than $5,000 by the end of 2018. Most investors came to realize that the Bitcoin frenzy created an economic bubble.
As the internet has become an integral part of people’s lives in the U.S., there have been privacy backlashes with incidents of cyber-attacks and data breaches. In April 2018, following large scale privacy leakage, Facebook CEO Mark Zuckerberg had to face inquiries from Congress and vowed to take concrete steps to protect users’ privacy. But the threat to privacy in the virtual world still lingers. The clash between improving digital experiences through data and personalization while maintaining data privacy remains an ongoing problem.

The year of 2018 also witnessed the deepening impact of the internet on American political life. Social networking sites such as Facebook and Twitter are used as an information source by 97 percent of netizens. Politicians and public figures such as Donald Trump rely heavily on social networks to provide opinions on national and international issues. However, many contend that social media has divided rather than united society, as messages on social networks often arouse clashing opinions rather than consensus or harmony.

The influence of the internet on politics is a double-edged sword. On the one hand, the internet is considered an effective tool to deliver political messages. On the other hand, it can also be utilized by interest groups and foreign nations in exerting influence on American political life. In 2018, investigations of Russia’s meddling in the 2016 presidential election continued. On July 13, 2018, a U.S. grand jury charged 12 Russian intelligence officers for their roles in hacking into and leaking U.S. Democratic Party emails during the 2016 presidential campaign. Facebook CEO Mark Zuckerberg relatedly revealed that his company is in constant battle with Russian operators seeking to exploit the social network. Although no set evidence has been disclosed, more than 60 percent of respondents in a poll believe that the Russians meddled in the 2016 presidential election through the internet.

In the past several years, vast improvements in technologies of machine learning, natural language processing (NLP), and text-to-speech translation has made voice interaction between human and machine increasingly valuable. Through voice indications users can get instantaneous access to information online as well as vocal response from digital assistants like Siri, Alexa, Cortana, and Google Assistant. In the meantime, other technologies such as Artificial Intelligence, 5G technology, and Blockchain may launch new revolutions in the next several years.
FINDINGS

1 Internet users and non-users
1.1 Internet penetration in the World Internet Project countries

Overall internet use

With the exception of Egypt and Tunisia, each of the countries in the current World Internet Project Study reported that a majority of respondents are internet users.

Five countries reported an internet penetration rate of 90 percent or higher: the UAE (98 percent), the United States (94 percent), Sweden (92 percent), Qatar (91 percent), and Saudi Arabia (90 percent).

Are you currently using the Internet?
(All respondents)

(Q3 R-1)

GC=Greek Cypriots / TC=Turkish Cypriots
Internet use among men and women

Some differences in internet use based on gender were observed in almost all of the WIP reporting countries.

Four countries reported the same percentage of men and women or just a one percentage point difference. Taiwan reported 69 percent for women and 68 percent for men. France reported the same percentage for both genders (84 percent). And both Lebanon (74 percent for men and 73 percent for women) and the UAE (98 percent for men and 97 percent for women) reported just one percentage point higher for men.

The largest gender gaps were reported by Tunisia (15 percentage points more for men than for women) and Egypt (11 percentage points more for men).

Internet use and education levels

In general, internet use increased where education levels were higher.

The internet was used by more than 70 percent of respondents with a high school education or more in all of the WIP countries except Cyprus’ Greek-Cypriot community and Egypt. Among respondents with a college degree or higher, the internet penetration rate was more than 80 percent in all WIP countries.
**Internet use by age**

In all reporting countries, respondents age 18-24 had the highest or was tied for the highest percentage of users. And only two countries reported percentages below 90 percent for this youngest age group: Tunisia (88 percent), and Egypt (70 percent).

For respondents age 25-34, all but two countries reported internet penetration of at least 90: Tunisia (70 percent), and Egypt (54 percent).

Internet use among the oldest group – those 65 and older – varies widely across the reporting countries. UAE reports the highest figure (100 percent), followed by the US (77 percent) and Sweden (72 percent).

Four countries report that less than 15 percent of those 65 and older are on the internet: Lebanon (14 percent), Taiwan (11 percent), Egypt and Tunisia (both five percent).

![Graph showing internet use by age across different countries](image-url)
Internet use and income level

Overall, a positive correlation exists between internet use and income level in all WIP countries; the higher the income level, the higher the internet penetration rate.

However, varying levels of disparity in internet use based on income were found in all WIP countries. The greatest disparity was in Tunisia with a 42 percentage-point difference between the highest 25 percent income earners and the lowest 25 percent earners, followed by Egypt with a 40 percentage-point gap, and Lebanon with a 34-point gap.

(Q3 I-1)
1.2 Internet use: at home, work, school, and other locations

Large percentages of users in the WIP reporting countries connect to the internet through a separate connection at home. More than 60 percent of users in the reporting countries connect to the internet through a mobile phone.

In the last month, how did you connect to the Internet?
(Internet users)

(Q6 U-1) multiple responses allowed

GC=Greek Cypriots / TC=Turkish Cypriots
1.3 Devices for internet access

In four of five reporting countries, at least 75 percent of users connect to the internet with their phones on at least a daily basis. Although a majority of users in all countries go online daily or several times a day through a computer, only one reporting country – Cyprus’ Greek-Cypriot community – had more than 75 percent of users connect at least daily through their computers.

In four of the five countries, less than one-third of users connect at least daily through their tablets or eReaders.

When comparing the chart above (daily/several times a day) with the figures for “never” below, it becomes clear that in many instances, users either use a connection method frequently, or not at all. Combined, in nearly every case, there are less than 20 percent of users who use these methods either weekly, monthly, or less than monthly.
1.4 Years online

Users in the United States reported the most years online (16 years) and Cyprus (Turkish-Cypriot community) the least years online (9 years).

(Q7 U-1) GC=Greek Cypriots / TC=Turkish Cypriots
1.5 User proficiency

In most categories, users feel confident about their ability to navigate a variety of tasks online. For every country, users are least confident about their ability to create and upload content.

However, this lack of confidence does not prevent users from uploading content. While only 34 percent of users in Cyprus’ Turkish Cypriot community indicated that they know how to create/upload content, 84 percent have uploaded content. Responses from the other countries are similar.
1.6 Internet non-users: reasons for not going online

The main reasons for not going online varied from country to country.

For most countries, either lack of interest or lack of knowledge were cited as the most important reason for not using the internet by non-users. Non-users in Cyprus (Greek-Cypriot community) (48 percent) and Cyprus (Turkish-Cypriot community) (37 percent) reported that lack of knowledge was the main reason they were not online.

Non-users in France (63 percent) and Sweden (50 percent) cited lack of interest as the principal reason they were not online.

In the United States, the lack of computer or device was the most frequently given reason for not going online (41 percent).

When reasons are classified into two groups – attitude vs. equipment/cost – all countries other than the United States report that the barriers are not from lack of the physical means to go online.
2 Politics and the internet
2.1 The internet and the political process

The internet plays an important role in the political process. But what kind of impact does digital technology have on the political process? Does the internet create political empowerment, help citizens participate in governance, build understanding of politics, or create greater engagement with public officials?

Opinions are mixed. The statement with the most agreement was “can better understand politics.” A majority of users agreed with this item in three of the four countries. France reported the lowest level of agreement for three of the four statements.

By using the internet, people like you can ..
(Internet users who somewhat or strongly agree)

(Q9A-D U-1)

GC=Greek Cypriots / TC=Turkish Cypriots
2.2 Freedom of expression online and offline

A majority of users across all reporting countries agree that people should be free to criticize government online. Somewhat fewer users report that they are comfortable saying whatever they think about politics.

However, generally lower numbers agree that it is safe to say whatever they think about politics online.

Views about free speech online vary considerably in the WIP reporting countries. When asked if “it is OK to express ideas on the internet, even if extreme,” the range of users who somewhat or strongly agree ranged from 29 percent in France to 71 percent in Egypt.

However, when asked if “the government should regulate the internet more,” more than two-thirds of respondents in five of the nine reporting countries somewhat or strongly agree, with a high of 83 percent in Cyprus (Turkish-Cypriot community). At the other extreme, 20 percent of users in the United States somewhat or strongly agree that the government should regulate the internet more.
3 Media reliability
3.1 Media reliability: information on the internet

In all WIP countries, at least two-thirds of users said that the information online is reliable to some degree. In three countries, at least 25 percent of users believe that most or all of the information online is reliable: Cyprus (Greek-Cypriot community) (38 percent), Taiwan (25 percent), and the United States (37 percent).

Users in Cyprus (Turkish-Cypriot community) report the lowest confidence in online information with 31 percent reporting that none or only a small portion of the information is reliable.

![Bar chart showing the percentage of users in different countries who believe that the information on the internet is generally reliable.](Image)

(Q10 U-1)

GC=Greek Cypriots / TC=Turkish Cypriots
Online security and personal privacy
4.1 Negative online experiences

In general, the most common negative online experiences were accidentally arriving at a pornographic website and receiving a computer virus.

At least 33 percent of users in all five reporting countries reported accidentally arriving at a pornographic website.

At least 20 percent of users received a computer virus in all reporting countries, with the highest reported in the United States (40 percent).

(Q8 U-1)
4.2 Online privacy

Among three potential sources of privacy violation (governments, corporations, and other people), users in all but one reporting country were least concerned about governments violating their privacy online. The only exception was the United States where other people created the least concern.

Conversely, in all other countries surveying attitudes about privacy threats from other people, individuals were of the greatest concern.

Concerned that governments, corporations or others will violate privacy online
(Internet users responding somewhat or strongly agree)

(Q14BCD U-1)
Opinions on privacy online vary across countries. At least 70 percent of users in all countries somewhat or strongly agree that they actively protect their privacy online. However, there is less consistency on the other questions.

Over two-thirds of users in Cyprus (Greek-Cypriot and Turkish-Cypriot communities) feel they can control their privacy online. At nearly the same level, they believe there is no privacy. On the other hand, less than 50 percent of users in France and the United States are confident they can control their online privacy.

Only in Cyprus (Turkish-Cypriot community) do a majority of users report that concerns about online privacy are exaggerated (64 percent).

(Q14AEFGH U-1) GC=Greek Cypriots / TC=Turkish Cypriots
4.3 Privacy violations

Small percentages of users in each country have experienced a violation of their privacy in the last year. Of those, one percentage or less reported that it was a considerable or serious problem.

In the past year, have you had your privacy violated online and, if so, how much of a problem was that?

(Internet users)

Among the small group that reported a privacy violation, consequences varied. In three countries, approximately a quarter of users reported that embarrassment was a consequence: Cyprus’ Greek-Cypriot community (25 percent); France (24 percent); and United States (29 percent). Employment impacts were the least common across nearly all countries with only Cyprus’ Turkish-Cypriot community reporting lower numbers in other categories.

What were the consequences of this privacy violation?

(Internet users)
5 Activities on the internet
5.1 Internet as a communication tool

Person-to-person communication

More than half of the users in all the reporting countries check email daily or several times a day. A very large percentage of users in Taiwan send direct messages or texts at least daily (87 percent). Much smaller percentages of users in all of the countries make or receive voice calls over the internet.

Content sharing and creation

A measurable number of users go online at least daily to post their own content or repost links/content created by others.

Users in the United States are most likely to post their own (16 percent) or others’ content (32 percent) at least daily.

For all countries except Cyprus (Turkish-Cypriot community), users are more likely to repost or share links to content created by others than they are to post their own content.
5.2 Research

A majority of users in seven countries go online to look for news daily or several times a day: Cyprus’ Turkish-Cypriot community (79 percent); Cyprus’ Greek-Cypriot community (69 percent); France (60 percent); Sweden (56 percent); Tunisia and the United States (55 percent); and Qatar (50 percent).

Four countries report more than 10 percent of users who never go online to look for news: Lebanon (27 percent); Qatar (22 percent); Saudi Arabia (11 percent); and France (14 percent).

How frequently do you use the Internet for the following purposes? Looking for news (Internet users)

At least a quarter of users in all countries report going online daily or several times a day to find or check a fact. On the other hand, only one country – Cyprus (Turkish-Cypriot community) reports that level for looking up a definition. However, all countries report that at least 10 percent go online to look up a definition daily or several times a day.
5.3 School-work and distance learning

A majority of students in the United States (85 percent) and Cyprus’ Turkish-Cypriot community (54 percent) go online at least weekly for school-related work.

Distance learning is less common with less than 10 percent of users in most countries going online at least weekly.

How frequently do you use the Internet for the following purposes?
(Internet users who are students and not employed and internet users responding weekly, daily or several times a day)

(Q20C-D U-2)

GC=Greek Cypriots / TC=Turkish Cypriots
5.4 Buying and selling

Getting information about a product is a common activity among all reporting countries. At least 33 percent of users in all countries go online at least weekly to get product information.

As activities that take place weekly or more often, looking for product information and comparing prices are both considerably more common than actually buying things.

![Bar chart showing the frequency of Internet use for various purposes, including buying and selling.](Q19A-B-C-G-H U-1)

GC=Greek Cypriots / TC=Turkish Cypriots

5.5 Financial management

Bills and banking are often managed on a monthly basis. When we look at that timeframe, a majority of users in four of the five countries go online to pay bills or conduct eBanking tasks. Investing, however, has much lower numbers of users who go online at least monthly for this activity.

![Bar chart showing the frequency of Internet use for various purposes, including financial management.](Q19D-F U-1)

GC=Greek Cypriots / TC=Turkish Cypriots
5.6 Entertainment

Music and videos

In a majority of countries, nearly equal numbers of users go online for music as for videos – a difference of four percentage points or less. Saudi Arabia has the greatest gap, with a difference of 19 percentage points. Sweden is next (a gap of 17 percentage points), followed by Qatar (15 percentage points), Lebanon (14 percentage points), and the UAE (11 percentage points).

How frequently do you use the Internet for the following purposes?
(Internet users responding daily or several times a day)

Online games and competitions

The frequency of online gaming is remarkably similar across the reporting countries. Online gambling remains a much less frequent activity.
5.7 Personal interest

Increasingly, users are turning regularly to online sources for various forms of information or content. For most of the categories, we see at least one country reporting that over 30 percent of users go online at least monthly for these types of subject matter. Only looking at sexual content and online dating do not reach 30 percent in any reporting country.

How frequently do you use the Internet for the following purposes?
(Internet users responding monthly, weekly, daily or several times a day)

(Q17B-D and Q18D-F G U-1)

GC=Greek Cypriots / TC=Turkish Cypriots
APPENDICES
APPENDIX 1 | World Internet Project: international partners

United States (Organizer) Center for the Digital Future
USC Annenberg School for Communication and Journalism
www.digitalcenter.org

Africa Contact: Indra de Lanerolle, indra.de.lanerolle@gmail.com
(Botswana, Cameroon, Ethiopia, Ghana, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda)

Australia ARC Centre of Excellence for Creative Industries and Innovation (CCi)
Institute for Social Research, Swinburne University of Technology

Belgium University of Antwerp

Canada Canadian Internet Project (CIP)/Recherche Internet Canada (RIC)
www.cipiconline.ca

Chile Pontificia Universidad Catolica de Chile: Schools of Communications (head), Sociology, and Engineering/Santiago Chamber of Commerce (CCS)
www.wipchile.cl

China China Internet Network Information Center (CNNIC)
cnnic.com.cn

Colombia CINTEL – Centro de Investigación de las Telecomunicaciones
www.cintel.org.co

Cyprus Cyprus University of Technology/Department of Communication and Internet Studies
www.cut.ac.cy/

Czech Republic Charles University, Department of Sociology
https://www.ff.cuni.cz/home/research/departments_research_profiles/department-sociology/

France M@rsouin Network
www.marsouin.org

Greece EKKE: The National Center for Social Research
www.ekke.gr

Israel The Research Center for Internet Psychology (CIP)
Sammy Ofer School of Communications, The Interdisciplinary Center
www.idc.ac.il/communications/cip/en
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<td>Macao</td>
<td>University of Macau, ERS E-Research (Lab)</td>
<td>Macao Internet Project (MIP)</td>
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<td>Mexico</td>
<td>Tecnológico de Monterrey, Proyecto Internet</td>
<td><a href="http://www.wip.mx">www.wip.mx</a></td>
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<td>Middle East</td>
<td>Contact: Justin Martin, <a href="mailto:justin.martin@northwestern.edu">justin.martin@northwestern.edu</a></td>
<td>(Bahrain, Egypt, Jordan, Lebanon, Qatar, Saudi Arabia, Tunisia, United Arab Emirates)</td>
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<td>New Zealand</td>
<td>NZ Work Research Institute</td>
<td>AUT University of Technology</td>
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<td>Portugal</td>
<td>Lisbon Internet and Networks International Research Programme (LINI)</td>
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<td>The Media Observatory Wits Journalism,</td>
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<td><a href="http://www.journalism.co.za">www.journalism.co.za</a></td>
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<td>IIS (The Internet Infrastructure Foundation)</td>
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<td>Switzerland</td>
<td>University of Zurich, Switzerland</td>
<td>IKMZ – Institute of Mass Communication and Media Research</td>
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<td>Taiwan e-Governance Research Center</td>
<td>Department of Public Administration, National Chengchi University</td>
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APPENDIX 2 | Research Methods

Cyprus (Greek-Cypriots)

Cyprus (Turkish-Cypriots)

The Cyprus data were collected between November 18 and December 8, 2016. The sample size was 1926 (926 from the Greek-Cypriot community and 1000 from the Turkish-Cypriot community). The data are representative of all people 15 years of age and above who live in Cyprus and can communicate in Greek, Turkish, or English. The data were weighted and normalized based on age, gender, and education. To compute the weights, the most recent available information from the statistical services of each community was utilized (Greek-Cypriot community, 2015; Turkish-Cypriot community, 2011). The data were collected through telephone surveys. The telephone interviews were conducted with individual participants selected randomly within households that were selected by a stratified random design from the telephone directory in each community. The sampling was proportionately stratified with respect to district and area type (urban vs. rural).

Egypt

Egypt Interviews were conducted face-to-face in Arabic and English from December 28, 2015 to January 18, 2016 with 1000 individuals aged 18 and above. Visitors with no residence permit, farmers, servants, the mentally disabled, and those in labor camps were excluded. A multi-stage random probability sampling procedure was used. The data was weighted by age and gender.

France

The French sample consisted of 2036 people with the data representative of the population living in metropolitan France (no overseas territories), aged 18 years and older. The data was weighted to correct for discrepancies age, gender, and geography. Interviews were conducted face-to-face, at home, from the November 17 to December 8, 2016.

Lebanon

Lebanon Interviews were conducted face-to-face in Arabic, English, and French from December 30, 2015 to January 28, 2016 with 1008 individuals aged 18 and above. Visitors with no residence permit, farmers, servants, the mentally disabled, those in labor camps, and potential respondents in areas with heavy Hezbollah presence were excluded. A multi-stage random probability sampling procedure was used. The data was weighted by age and gender.

Qatar

Qatar Interviews were conducted by phone in Arabic and English from January 10 to February 10, 2016 with 1000 individuals aged 18 and above. Those in army barracks, hospitals, dormitories, and prison were excluded. A randomized sample within the household using a constant fraction sampling procedure was used. The data was weighted by age and gender.
Saudi Arabia

Interviews were conducted face-to-face in Arabic and English from December 20, 2015 to February 27, 2016 with 1007 individuals aged 18 and above. Visitors with no residence permit, farmers, servants, the mentally disabled, and those in labor camps were excluded. A multi-stage random probability sampling procedure was used. The data was weighted by age and gender.

Sweden

The Swedish data was collected by both telephone interview and web-based questionnaire from February to April 2016. In 2000, the first year the Survey was conducted, a random sample of Sweden’s population was drawn from the population register. This sample has been supplemented annually with a stratified sample (by age and sex to ensure adequate representation in regard to these variables) to replace lost members. In 2016, 2,844 respondents over the age of 16 and 353 children between the ages of 11 and 15 were interviewed.

Taiwan

The Taiwan data was collected by telephone interview from July 15 to July 24 in 2016. The data was collected from 1,300 computer-assisted telephone interviews with respondents aged 15 and above. After weighting, the sample was representative of the Taiwan population by sex, age, area, and education.

Tunisia

Interviews were conducted face-to-face in Arabic, English, and French from January 2 to February 1, 2016 with 1016 individuals aged 18 and above. Visitors with no residence permit, farmers, servants, the mentally disabled, and those in labor camps were excluded. A multi-stage random probability sampling procedure was used. The data was weighted by age and gender.

United Arab Emirates (UAE)

Interviews were conducted face-to-face in Arabic and English from January 1 to January 31, 2016 with 1017 individuals aged 18 and above. Visitors with no residence permit, farmers, servants, the mentally disabled, and those in labor camps were excluded. A multi-stage random probability sampling procedure was used. The data was weighted by age and gender.

United States

Interviews were conducted in English. Interviewing took place between January 26th, 2018 and March 30th, 2018. The data were collected through a combination of telephone and web surveys. A national representative sample was used. There were 1514 respondents, aged twelve and above. To correct for discrepancies between the sample data and Census data, the sample data was weighted. Weighting was created based on the 2010 census for gender, age, income, education and ethnicity.