CBS
Central Bureau of Statistics

Integration of ICT in Private Households
ICT and Media Survey 2017

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ICT and Media Survey 2017

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Preface

The use of information and communication technology has an impact on the modern society. Over the years the increased infiltration transformed it in to an 'information society". Its main feature is that information and communication technologies play an important role in production and economy as well as in all other spheres of life of individuals and society as a whole.

Due to this development the Central Bureau of Statistics Curaçao has conducted an ICT & Media survey in 2017 to measure the access to and the use of Information and Communication Technology including social media by the households and people of Curaçao.

The report is divided into two parts. The first describes the ICT usage of the households in Curacao and the second part describes the ICT usage of the individuals in Curaçao.

The CBS of Curacao hopes that this report meets the need for information of the ICT usage of the population of Curacao and that the results will be used by the community.

A sincere word of thanks goes to the households and persons who participated in this survey, to the author of this publication Mrs. Maurette Williams and the staff of the CBS for their valuable input that.

The director

Drs. Sean de Boer

Summary

Technology and the internet have become an important part of everyday life. It has transcended physical boundaries and made the world smaller. As it integrates everyone's life, technology is now a basic need and it is thus important for a country to be well-integrated with ICT capabilities.

The ICT Development Index has been developed to allow international comparison. As a population the IDI index of Curaçao is 6.9 out of a maximum score of 10. This index looks at different areas. The area that has the most opportunity for improvement is ICT access. ICT access includes internet speed and this is where we as a country are lacking the most.

The ICT & Media Survey conducted in 2017 aims to understand the level of internet penetration and usage in households and by persons aged 6 and older. With online presence intruding on all levels of society such as social interaction, education and entertainment, it is imperative that we understand to which extent information technology has integrated our society.

The results show that younger generations are more involved with information technology than the older generations. It also depicts a gap between males and females. The reason for this gap might be generational as literature suggests however, the difference in generations will be explored in a Modus article "Technology and Media Use through Generations".

Samenvatting

Technologie en internet maken tegenwoordig een belangrijk deel uit van het dagelijkse leven. Ze heffen fysieke grenzen op en maken de wereld kleiner. Aangezien het leven van iedereen hierdoor wordt geraakt, kan technologie inmiddels ook wel als een basisbehoefte worden gezien. Een goede integratie op het gebied van alles wat de ICT te bieden heeft, is voor een land dus van groot belang.

Om vergelijkingen op internationale schaal mogelijk te maken, is de ICT Development Index (IDI) door International Telecommunication Union (ITU) ontwikkeld. Daarop scoort de bevolking van Curaçao een 6,9 uit 10. De IDI-index neemt meerdere aspecten in overweging, en daaruit kwam 'toegang tot ICT' uit de bus als het gebied waar lokaal gezien de meeste ruimte is voor verbetering. Onder toegang tot ICT valt onder andere de internetsnelheid en dat is waar wij als land momenteel het meeste in tekortschieten.

De ICT & Media-enquête die in 2017 is uitgevoerd, had tot doel inzicht te geven over het niveau van internetpenetratie en -gebruik onder huishoudens en onder personen van 6 jaar en ouder. Het gebruik van internet op allerlei terreinen van de samenleving, zoals sociale interactie, onderwijs en entertainment, maakt het noodzakelijk te begrijpen in hoeverre informatietechnologie in onze samenleving is geïntegreerd.

De resultaten laten zien dat jongere generaties meer betrokken zijn bij informatietechnologie dan de oudere. Er valt ook een kloof waar te nemen tussen mannen en vrouwen. De literatuur suggereert echter dat de reden voor deze kloof ook aan verschillen tussen generaties onderling kan liggen. Op dergelijke generatieverschillen wordt verder ingegaan in een volgend Modusartikel: 'Technologie en mediagebruik door generaties'.

Resúmen

Teknologia i internèt a bira parti importante di bida diario. Nan ta eliminá un kantidat di limitashon físiko i a hasi mundu bira mas chikitu den un sentido. Teknologia a bira parti di bida di un i tur i, komo tal, e ta un nesesidat básiko awendia. P'esei ta importante pa uso di ICT ta bon integrá den poblashon di un pais.

ICT Development Index (IDI) ta un índise formulá pa International Telecommunication Union (ITU), pa yuda kompará desaroyo teknológiko di diferente pais. Poblashon di Kòrsou ta skor 6.9 for di un máksimo di 10 punto den e índise IDI. E índise akí ta tene kuenta ku diferente aspekto, i esun kaminda nos tin mas espasio pa mehorá ta 'akseso na ICT'. Akseso na ICT ta enserá entre otro velosidat di internet, i komo pais esei ta nos punto débil prinsipal aktualmente.

Na 2017, a tene un enkuesta di ICT i media (ICT & Media Survey) ku e meta di komprondé te kon leu e kasnan di famia i hende di 6 aña bai ariba tin akseso na internet i ta us'é. Uso di internèt ta penetrando den tur aspekto di komunidat, manera den kontakto sosial, den enseñansa i den entretenimentu, i p'esei mes ta esensial pa nos komprondé te kon leu uso di teknologia di informashon a bira parti bida den nos komunidat.

E resultadonan di e enkuesta ta mustra ku e generashonnan mas yòn ta usa teknologia di informashon mas tantu kompará ku e generashonnan mas grandi. Tambe por mira un diferensia entre hende hòmber i hende muhé. Sinembargo, literatura ta indiká ku e motibu di diferensia akí (entre e dos seksonan) por tin di aber ku diferensia entre un generashon i otro. Den un siguiente artíkulo di Modus, 'Technology and Media Use through Generations' (Kon Diferente Generashon Ta Usa Teknologia i Media), nos lo eksplorá e diferensia entre e diferente generashonnan.

Definitions and ICT indicators

In this chapter the description and definition of the core indicators on access to, and use of, ICT by households and individuals are explained.

Radio: A radio is defined as a device capable of receiving broadcast radio signals, using common frequencies, such as FM, AM, LW and SW. A radio may be a stand-alone device, or it may be integrated with another device, such as an alarm clock, an audio player, a mobile telephone or a computer.

Television: A television (TV) is a device capable of receiving broadcast television signals, using popular access means such as over-the-air, cable and satellite. A television set is typically a stand-alone device, but it may also be integrated with another device, such as a computer or a mobile telephone.

Fixed telephone: A fixed telephone line refers to a telephone line connecting a customer's terminal equipment (e.g. telephone set, facsimile machine) to the public switched telephone network (PSTN) and which has a dedicated port on a telephone exchange.

A mobile (cellular) telephone refers to a portable telephone subscribing to a public mobile telephone service using cellular technology, which provides access to the PSTN. This includes analogue and digital cellular systems and technologies such as IMT-2000 (3G) and IMT-Advanced. Users of both postpaid subscriptions and prepaid accounts are included.

Computer: A computer refers to a desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer).

Desktop: a computer that usually remains fixed in one place; normally the user is placed in front of it, behind the keyboard.

Laptop (portable) computer: a computer that is small enough to carry and usually enables the same tasks as a desktop computer; it includes notebooks and netbooks but does not include tablets and similar handheld computers.

Tablet (or similar handheld computer): a tablet is a computer that is integrated into a flat touch screen, operated by touching the screen rather than (or as well as) using a physical keyboard. It does not include equipment with some embedded computing abilities, such as smart TV sets, and devices with telephony as their primary function, such as smartphones

Internet: The Internet is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer – it may

also be by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed or mobile network.

Multichannel TV services are as follows:

Cable TV (CATV): multichannel programming delivered over a coaxial cable for viewing on television sets

Direct-to-home (DTH) satellite services: TV services received via a satellite dish capable of receiving satellite television broadcasts

Internet-protocol TV (IPTV): multimedia services such as television / video / audio / text / graphics / data delivered over an IP-based network managed to support the required level of quality of service, quality of experience, security, interactivity and reliability; it does not include video accessed over the public Internet, for example, by streaming. IPTV services are also generally aimed at viewing over a television set rather than a personal computer.

Digital terrestrial TV (DTT): the technological evolution from analogue terrestrial television, providing capability for significantly more channels

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1.Introduction

The Central Bureau of Statistics Curaçao (CBS) conducted an ICT and Media Survey in 2017. This survey aims to measure the access to and the use of Information and Communication Technology including social media by the households and people of Curaçao.

ICT (Information and Communication Technology) refers to technological methodologies that enable communication. The level of integration of ICT technologies within a community is a good indication of the advancement and adaptation of society to the modern world. It is an integral part of the economic and social development of a country. It stimulates efficiency of economic and social processes and increases the knowledge and information to which people, government, companies and other organizations have avail to.

Research into the access and use of ICT is conducted international and is important in the development of policies with regards to technologic advances. The research shows areas where standards are lacking so that the right policies can be put into place. The norm thus set locally and internationally by comparing the access and use over time and benchmarked against other countries.

The international benchmark has been set by the ITU (International Telecommunications Unit). ITU has a long history of collecting, harmonizing and disseminating statistics on telecommunications and ICTs, and is recognized as the prime source of internationally comparable data in this field. They have developed a set of 50 indicators which are internationally comparable. Out of these indicators, CBS can calculate the ICT Development Index (IDI) used to rank countries on the level of ICT integration.

The second objective of the ICT and Media Survey is measuring of the usage of media from people 6 years and older. Media has been defined not only as traditional media but also the modern media such as internet and social media. This particular publication will discuss the ICT results.

2. Methodology

A sample of 2,000 households was initially drawn for the ICT and Media Survey. The sample was drawn randomly from a list of addresses received from the Civil Registry. A random drawing assures that each address has the same probability of being chosen.

This sample was drawn on the assumption of a 25% non-response. For fieldwork purposes, a non-response is considered a household which did not complete the survey. However, during the fieldwork, which was originally scheduled for six weeks, the non-response turned out to be higher than expected. To still ensure reliable results, an additional 400 households were approached.

At the end of the fieldwork, the non-response was 49.34% of which refusal was the major reason. The final response of 1,227 households gave us an error margin of ±2.77 percent.

The surveys were conducted by a team of 40 interviewers using Windows laptops running CSPro survey program.

The questionnaire consisted of a household section and a personal section. The household section was to be answered by the head of the household or the reference person. The reference person was defined as an adult who could take the responsibility of answering questions for the household. The reference person answered those indicators related to the household, whereas each person, 6 years and older, answered questions regarding their individual ICT and media usage.

The questions in the household section are:

- Shared use of radio
- Shared use of television
- Shared use of fixed telephones
- Shared use of mobile telephones
- Shared use of computer
- Internet connection

The questions in the personal section are:

- Demographics
- Personal use of radio
- Personal use of television
- Personal use of newspaper
- Personal use of internet
- Personal use of computers
- Personal use of social media
- Media participation

3. Results

This section highlights the results of the ICT survey from a household and a private perspective.

3.1 Household ICT Usage

The ICT results have been divided into household usage and individual usage of information technology. In this section, we will show the household usage of ICT technology.

The sub index 4 and 5 of the IDI index indicate the percentage of households using shared computer (sub index 4) and with access to internet (sub index 5). The survey results show that 51.6 percent of the households of Curaçao have a computer which everyone in the households have access to and can use. The percentage of households with shared internet access is higher at 64.5 percent.

Table 1. Household with shared ICT access	
Computer Access	51.6%
Internet Access	64.5%

Table 1. Household ICT access

From the data above (Table 1) it can be deduced that 35.5% of households do not have access to internet at home. Of those who do not have access more than half indicate that the main reason is the high cost of internet connection, followed by the high cost of computers.

Nowadays computers and internet have become an important part of everyday life with the growing integration of social media, eBooks, and easy access to a vast array of knowledge. Despite the increasing dependency on internet and computers, there are households who do not have access to internet. Of these households nearly thirty-two percent indicated that they do not have internet access due to the high cost of the service and the hardware (Table 2).

Table 2. Reason household does not have internet	
Due to the high cost of internet connections	51.3%
Due to the high cost of computers (desktop PCs, laptops, tablets and similar)	40.7%
We do not need internet	31.8%

We have access to internet elsewhere	17.9%
Due to lack of trust, know-how and skill to use the internet	9.8%
There is no internet infrastructure in our neighborhood	8.5%
We worry about privacy and security	7.9%
There is internet infrastructure, but it does not meet the needs of our household	4.3%
Other reason	17.3%

Table 2. Reasons no Internet

For this survey, computers have been defined as desktop computers, laptops, tablets or similar handheld devices. Households with shared computer usage are 51.6 percent. A shared computer is any device that can be accessed and used by each member of the household. This means that a computer can be present in a household but if it is not accessible to everyone in the household, it is not counted as a household computer.
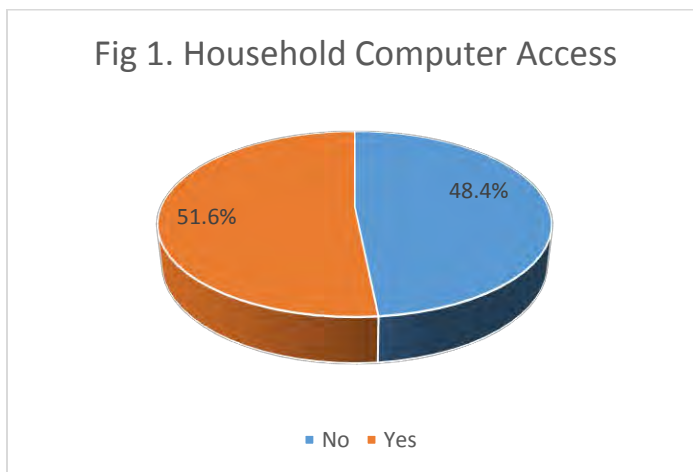
Figure 1. Shared Computer Access

3.2 Individual ICT Usage

This section includes the ICT usage of individuals.

3.2.1 Mobile Usage

Overall there are 87.2 percent of the 6 years and older population that have a mobile phone. The male to female ratio is nearly identical.

Differences between gender could be detected in those older than 64. In the older age range, females are less likely to have a mobile phone for individual use.

Table 3. People using mobiles in the last three months by age and gender			
	Male	Female	Total
06-14	50.3%	59.2%	54.7%
15-24	94.7%	95.5%	95.1%
25-34	94.4%	97.5%	96.1%
35-44	95.8%	97.8%	97.0%
45-54	93.7%	97.0%	95.6%
55-64	91.3%	95.2%	93.5%
65-74	93.8%	83.0%	87.6%
75+	66.7%	51.5%	57.4%
Total	86.5%	87.9%	87.2%

Table 3. Individual Usage of Mobile Phones

On an educational level, a higher education signifies a higher proportion of mobile individual usage (Figure 1).
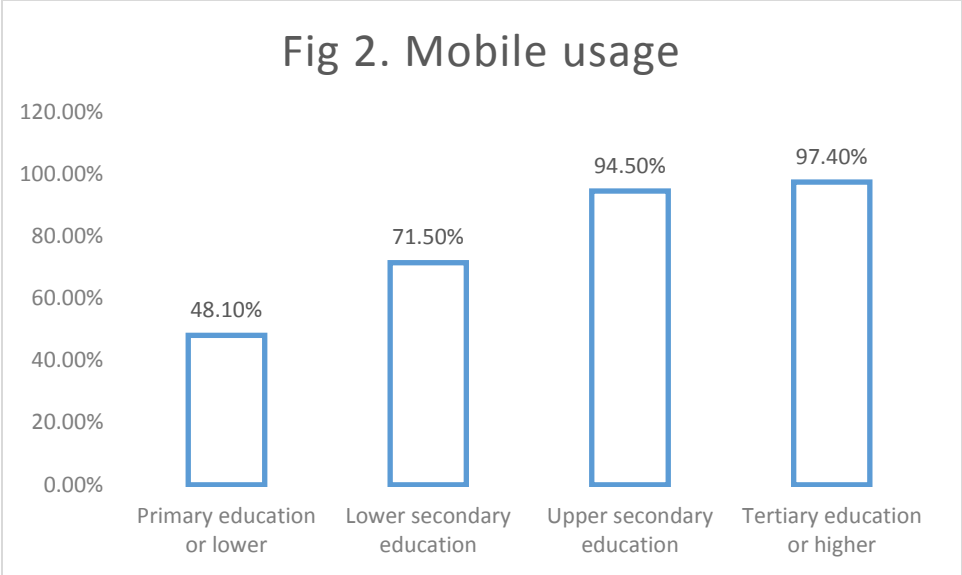
Fig 2. Mobile usage

Figure 2. Mobile Usage by Education

3.2.2 Computer Usage

Computer usage on an individual level are higher than on a household level.

Table 4. People using computer in the last three months by age and gender			
	Male	Female	Total
06-14	66.4%	71.4%	68.9%
15-24	83.5%	94.2%	88.8%
25-34	85.5%	87.1%	86.4%
35-44	76.5%	80.3%	78.7%
45-54	75.9%	77.5%	76.8%
55-64	57.9%	65.5%	62.3%
65-74	50.8%	44.1%	47.0%
75+	22.5%	12.7%	16.5%
Total	68.9%	70.3%	69.7%

Table 4. Computer Usage by Age and Gender

Of the 6 years and older population, 69.7 percent is using a computer. Usage of computers decreases as age increases with only 16.5% of 75 and older population using a computer. Females are more likely to use computers between the age of 6 and 64. From the age of 65 males are more likely to have used a computer in the last three months.

The use of computer can signify different level of intensity. The table below (Table 5) shows that for most activities, males and females behave similar. The activity with the biggest difference is installing new devices such as printers or modems and finding, downloading, installing and configuring software.

Table 5. List of computer activities by gender	Male	Female
Copying or moving a file or folder	33.8%	32.2%
Copying or pasting information in a document	42.0%	42.2%
Finding, downloading, installing and configuring software	30.3%	22.5%
Sending e-mail with a document as an attachment	50.2%	50.2%
Using simple formulas in a spreadsheet	30.2%	30.5%
Installing new devices, such as printers or modems	21.0%	14.2%
Moving files between computers and other devices, such as phones, cameras or music players	35.6%	30.2%
Making a presentation using software such as PowerPoint, including, for example, images, sound, videos or graphics	23.9%	21.2%
Writing a program in a programming language	7.3%	4.8%
Other computer activities	5.1%	8.0%

Table 5. Computer Activities by Gender

The younger generation of 15 to 24 year olds is more intensely engaged in all different computer activities. The more intense the knowledge of computers becomes, the proportion of those engaged with the activities becomes less. This is even more apparent in the older generation. They tend to copy files and use emails and leave the programming and installing of hardware and software to the younger generation.
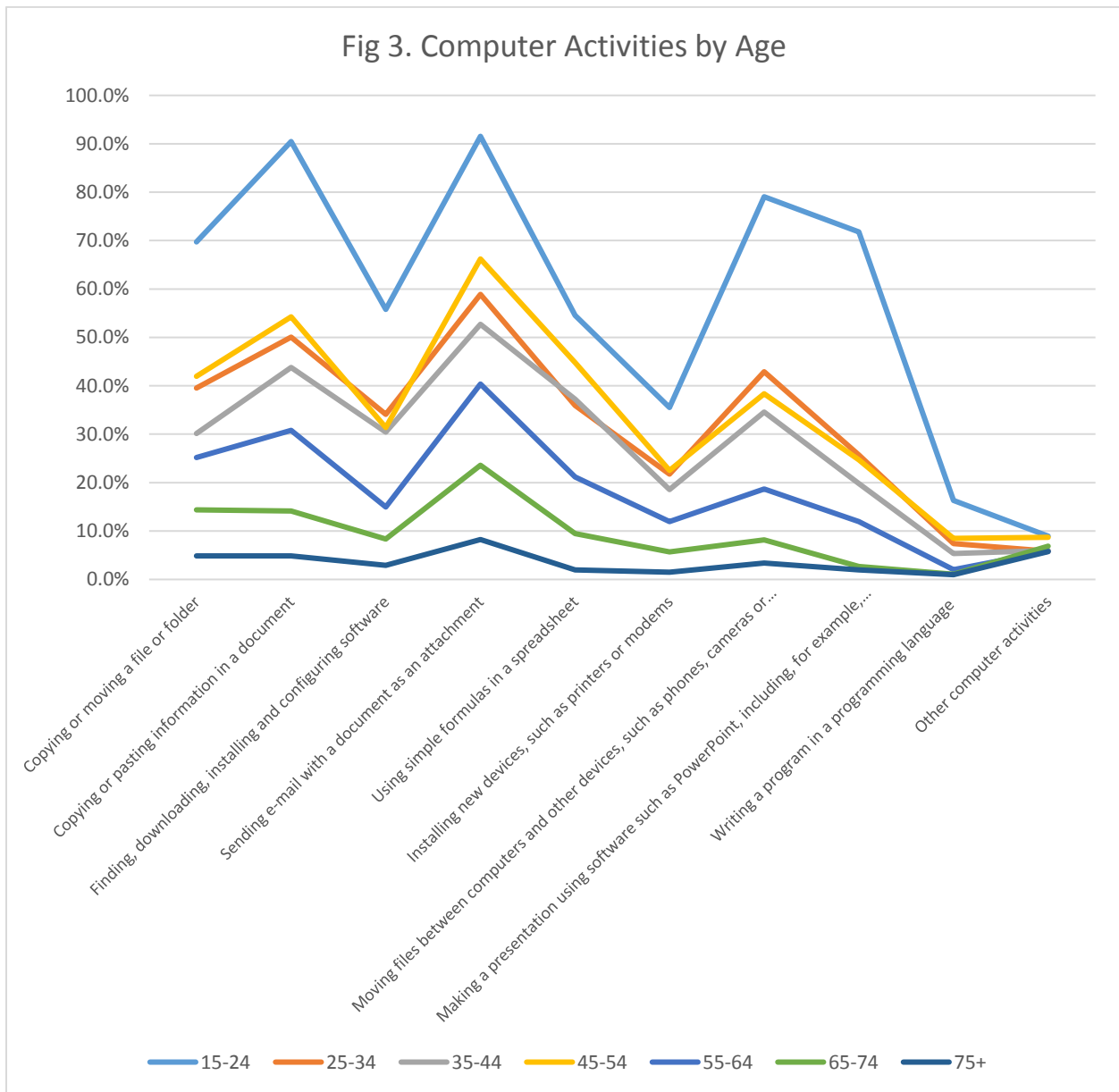
Figure 3. Computer Activities by Age

Table 5. List of computer activities by age	15-24	25-34	35-44	45-54	55-64	65-74	75+
Copying or moving a file or folder	69.8%	39.5%	30.2%	41.9%	25.2%	14.4%	4.9%
Copying or pasting information in a document	90.4%	50.1%	43.8%	54.2%	30.8%	14.1%	4.9%
Finding, downloading, installing and configuring software	55.8%	34.1%	30.5%	31.4%	15.0%	8.4%	2.9%
Sending e-mail with a document as an attachment	91.5%	58.9%	52.7%	66.2%	40.4%	23.6%	8.2%
Using simple formulas in a spreadsheet	54.5%	35.9%	37.2%	44.8%	21.2%	9.5%	2.0%
Installing new devices, such as printers or modems	35.5%	21.7%	18.5%	22.5%	12.0%	5.7%	1.5%
Moving files between computers and other devices, such as phones, cameras or music players	79.0%	42.9%	34.6%	38.4%	18.7%	8.1%	3.4%
Making a presentation using software such as PowerPoint, including, for example, images, sound, videos or graphics	71.8%	25.7%	19.8%	24.7%	12.0%	2.7%	2.0%
Writing a program in a programming language	16.3%	7.4%	5.4%	8.5%	2.0%	1.1%	1.0%
Other computer activities	9.0%	5.8%	6.0%	8.7%	5.8%	6.9%	5.8%

Table 6. Computer Activities by Age

3.2.3 Internet Usage

The percentage of 6 years and older who have used the internet in the last three months is 68.1 percent (Table 7). A similar trend shows that 15-24 year olds are the most involved with the internet and the 75 years and older are less involved with the internet. Even the age distribution is quite similar with the females more involved, except for the older generation where there is a higher share of males older than 65 using the internet than the females.

Table 7. People using internet in the last three months by age and gender

	Male	Female	Total
06-14	60.4%	66.7%	63.5%
15-24	82.9%	91.0%	86.9%
25-34	83.1%	85.3%	84.3%
35-44	74.8%	77.6%	76.4%
45-54	76.4%	77.5%	77.1%
55-64	56.9%	65.2%	61.6%
65-74	50.8%	43.2%	46.5%
75+	22.5%	12.7%	16.5%
Total	67.4%	68.7%	68.1%

Table 7. Internet Usage by Age and Gender

Table 8. Frequency use Internet by gender

		At least once a day	At least once a week but not daily	Less than once a week	Do not know
06-14	Male	47.8%	21.3%	1.1%	0.0%
	Female	78.6%	14.3%	7.1%	0.0%
15-24	Male	97.8%	1.4%	0.7%	0.0%
	Female	97.9%	2.1%	0.0%	0.0%
25-34	Male	95.1%	4.9%	0.0%	0.0%
	Female	97.8%	2.2%	0.0%	0.0%
35-44	Male	98.9%	1.1%	0.0%	0.0%
	Female	95.7%	2.1%	0.7%	1.4%
45-54	Male	95.2%	4.1%	0.0%	0.7%
	Female	95.6%	3.4%	0.0%	1.0%
55-64	Male	92.8%	4.5%	1.8%	0.9%
	Female	87.8%	9.0%	3.2%	0.0%
65-74	Male	89.9%	9.0%	1.1%	0.0%
	Female	84.7%	11.2%	4.1%	0.0%
75+	Male	91.3%	8.7%	0.0%	0.0%
	Female	75.0%	25.0%	0.0%	0.0%
Total	Male	93.3%	5.9%	0.6%	0.2%
	Female	92.4%	5.6%	1.6%	0.4%
	Total	92.8%	5.7%	1.2%	0.3%

Table 8. Internet Usage Frequency by Gender

The frequency of using internet (Table 8) is for most people at least once a day with 92.8 percent using the internet daily. Looking at age and gender, we can see some differences in the 55 and older population and the 6 to 14 year olds. The female 75 and older group has a larger portion (25.0%) who use the internet at least once a week compared to all other groups. The male 6 to 14 year olds are the group who have the smallest portion who use the internet daily (47.8%).

Internet can be very mobile. It has come a long way from the dial-in modems as internet is now even available for free to the public in town. The percentages presented in the table below are from those who have used the internet in the last three months. The majority uses the internet at home, with commercial establishment a distant second.

Table 9. Location where internet is used by gender			
	Male	Female	Total
At home	90.5%	92.8%	91.8%
At a commercial establishment (paid use at internet cafés, hotels, airports etc.)	40.1%	38.7%	39.3%
Moving from place to place, not at a fixed location (mobile)	39.9%	34.8%	37.1%
At work	36.7%	36.7%	36.7%
At somebody else's home	33.4%	33.1%	33.3%
At a public facility (such as public library, community center, McDonald's, Starbucks etc.)	26.4%	26.4%	26.4%
At an educational institution	17.0%	19.9%	18.6%
At somebody else's work	9.0%	8.6%	8.8%
Other location	5.9%	6.9%	6.5%

Table 9. Internet Usage Location by Gender

The home is the single location which is constant amongst all gender and ages. Differences in age can be seen when the location concerns using the internet at someone else's home, mobile, or at an educational institution (Figure 4).

Fig 4. Internet Usage Location by Age
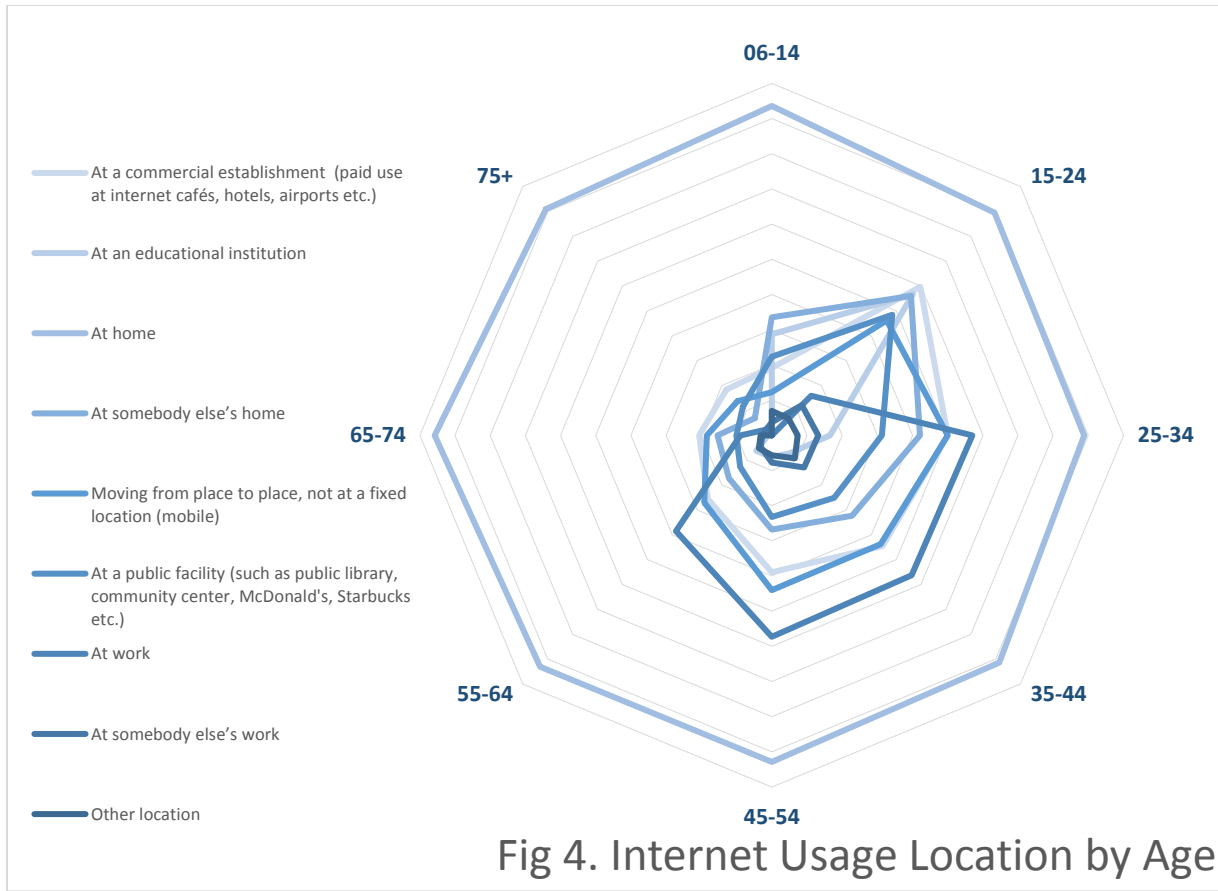
Figure 4. Internet Usage Location by Age

Table 10. Location where internet is used by age								
	06-14	15-24	25-34	35-44	45-54	55-64	65-74	75+
At a commercial establishment (paid use at internet cafés, hotels, airports etc.)	19.1%	59.7%	50.0%	44.5%	38.9%	25.7%	20.6%	18.3%
At an educational institution	28.7%	56.7%	16.6%	7.2%	6.2%	6.2%	1.1%	0.0%
At home	93.6%	89.5%	88.8%	91.4%	92.9%	93.1%	95.8%	90.9%
At somebody else's home	33.5%	56.0%	42.1%	32.4%	26.8%	17.3%	15.4%	6.8%
Moving from place to place, not at a fixed location (mobile)	12.2%	46.1%	50.0%	43.8%	44.0%	27.1%	18.5%	13.7%
At a public facility (such as public library, community center, McDonald's, Starbucks etc.)	22.3%	48.4%	31.3%	25.1%	23.2%	12.7%	10.1%	11.5%
At work	0.0%	15.9%	57.0%	56.3%	57.3%	38.5%	8.9%	2.3%
At somebody else's work	3.7%	12.1%	13.2%	13.0%	7.7%	4.5%	2.6%	2.3%
Other location	6.9%	6.7%	7.4%	9.3%	5.7%	5.2%	3.2%	0.0%

Table 10. Internet Usage Location by Age

From those who use the internet, their activities while online were catalogued. The activities ranged from minor involvement with the internet to deep involvement such as programming and hosting websites.

Table 11. Online Activities by Gender	Male	Female	Total
OBTAINING INFORMATION			
Reading or downloading electronic newspapers, magazines or books online	25.9%	28.9%	27.5%
Find information on a government organization	21.1%	22.1%	21.6%
Find health-related information	40.6%	53.3%	47.6%
Find information on products and services	43.5%	36.7%	39.8%
Consulting wikis (Wikipedia etc.), online encyclopedias or other webpages for purposes related to formal education	38.9%	40.4%	39.7%
INTERACTIONS WITH ORGANIZATIONS			
Maintaining or adding content to a blog	6.3%	5.7%	5.9%
Make an appointment with a doctor (GP) through a website	1.8%	3.4%	2.7%
While interacting with a government organization	12.6%	13.8%	13.3%
Streaming or downloading pictures, movies, videos or music	45.9%	39.7%	42.4%
Taking a formal course online	5.4%	4.7%	5.0%
Voicing your opinion on a social or political issue on a website	6.4%	6.5%	6.5%
Taking part in online consultations or voting online to decide on social or political issues.	4.0%	4.6%	4.3%
Using travel or travel-lodging related services	25.4%	27.4%	26.5%
Listening to web radio	24.2%	21.2%	22.5%
Watching web TV	26.0%	21.2%	23.3%
PERSONAL INTERACTIONS			
Using space on the internet to store documents, pictures, music, videos or other files	35.8%	32.0%	33.7%
Uploading content created by yourself onto a website	5.9%	5.1%	5.5%
Sending or receiving e-mail	64.0%	64.6%	64.4%
Talking to friends and/or families	80.0%	83.5%	81.9%
Finding work or sending out job applications	7.8%	11.5%	9.9%
Administering your own home page	8.1%	7.6%	7.8%
Using software on the internet to process text, documents, spreadsheets or presentations	18.4%	15.6%	16.9%
Participating in professional networks	9.2%	8.1%	8.6%
Participating in social networks	42.6%	43.5%	43.1%
Making calls over the internet (VoIP)	61.7%	61.2%	61.4%
ONLINE SHOPPING			
For internet banking	32.3%	31.3%	31.7%
Purchasing or ordering products or services	24.0%	17.9%	20.6%
Selling products or services	7.9%	5.8%	6.7%

Table 11. Online Activities by Gender

The online activity performed by 81.9 percent of those using the internet is talking to friends and/or family followed by sending or receiving emails (64.4%) and making calls over the internet (61.4%). These activities are all part of personal interactions.

The least performed activities are making doctor appointments (2.7%), taking part in online consultations or voting online to decide on social or political issues (4.3%) and taking a formal course online (5.0%). All these fall in the category of Interactions with organizations. Knowing this, raises the question whether these activities are perceived as too impersonal or that awareness of the possibility is limited. Table 12 shows that there are some activities that are age related, and might even be typical of different generations, such as Streaming and downloading, listening to web radio, watching web TV, using space on the internet to store documents and pictures, using software on the internet to process text and documents and purchasing or ordering products online.

Table 12. Online Activities by Age

	15-24	25-34	35-44	45-54	55-64	65-74	75+
OBTAINING INFORMATION							
Reading or downloading electronic newspapers, magazines or books online	26.8%	38.4%	33.2%	32.3%	26.2%	29.5%	18.3%
Find information on a government organization	11.7%	32.6%	27.1%	26.7%	27.8%	20.1%	16.0%
Find health-related information	41.1%	58.5%	57.1%	55.3%	59.3%	53.9%	40.8%
Find information on products and services	40.0%	58.8%	48.3%	45.1%	38.4%	34.3%	27.4%
Consulting wikis (Wikipedia etc.), online encyclopedias or other webpages for purposes related to formal education	62.0%	49.5%	46.9%	37.1%	37.1%	29.0%	22.8%
INTERACTIONS WITH ORGANIZATIONS							
Maintaining or adding content to a blog	9.9%	12.8%	6.4%	4.0%	2.7%	2.1%	2.3%
Make an appointment with a doctor (GP) through a website	1.1%	4.9%	2.6%	3.4%	3.0%	4.2%	2.3%
While interacting with a government organization	6.0%	18.6%	15.8%	20.7%	15.3%	12.1%	6.9%
Streaming or downloading pictures, movies, videos or music	76.9%	65.3%	50.0%	34.7%	26.0%	20.6%	13.7%
Taking a formal course online	4.6%	12.0%	5.2%	5.2%	3.9%	0.5%	2.3%
Voicing your opinion on a social or political issue on a website	7.7%	9.8%	7.7%	7.5%	4.9%	4.2%	4.6%
Taking part in online consultations or voting online to decide on social or political issues.	3.9%	5.8%	6.4%	6.8%	2.3%	2.1%	4.6%
Using travel or travel-lodging related services	17.4%	37.1%	29.6%	36.7%	30.5%	27.0%	20.5%
Listening to web radio	26.4%	34.7%	30.7%	25.0%	18.0%	11.0%	6.8%
Watching web TV	33.5%	33.9%	28.8%	23.9%	19.4%	10.6%	9.1%
PERSONAL INTERACTIONS							
Using space on the internet to store documents, pictures, music, videos or other files	54.6%	49.2%	37.9%	30.0%	26.8%	22.1%	11.4%
Uploading content created by yourself onto a website	6.7%	10.7%	6.4%	5.2%	4.0%	1.6%	4.5%
Sending or receiving e-mail	78.2%	81.3%	71.6%	68.6%	69.5%	62.9%	50.1%
Talking to friends and/or families	97.2%	94.6%	96.7%	91.7%	86.2%	85.8%	63.8%
Finding work or sending out job applications	14.3%	22.6%	17.2%	5.4%	2.3%	0.5%	2.2%
Administering your own home page	12.0%	12.0%	10.4%	8.3%	4.1%	2.1%	6.9%
Using software on the internet to process text, documents, spreadsheets or presentations	30.1%	26.9%	16.2%	15.2%	12.3%	7.3%	6.8%
Participating in professional networks	4.6%	14.0%	14.0%	10.9%	8.4%	3.7%	4.6%
Participating in social networks	57.3%	60.3%	52.5%	46.4%	37.5%	26.5%	25.1%
Making calls over the internet (VoIP)	77.4%	73.5%	73.1%	68.6%	61.1%	56.1%	38.8%
ONLINE SHOPPING							
For internet banking	17.4%	47.5%	39.9%	42.2%	34.8%	32.7%	25.1%
Purchasing or ordering products or services	21.1%	35.6%	24.3%	25.2%	17.5%	9.4%	2.3%

| Selling products or services | 5.9% | 13.7% | 7.2% | 10.0% | 3.4% | 2.1% | 2.3% |

Table 12. Online Activities by Age

With the increased use of internet, online fraud, identity theft and viruses are a true threat to households (Table 13). The usage of protection is thus an indication of the extent to which households are security aware and how internet savvy the population is.

Table 13. Security Measures			
	Male	Female	Total
An anti-virus program	48.3%	46.8%	47.4%
Regularly changing your password	20.5%	16.9%	18.5%
Making a backup in the cloud	23.8%	23.1%	23.4%
Making a backup on an external disk	30.6%	27.9%	29.1%
A firewall	38.4%	34.6%	36.3%
Regularly updating your applications	45.3%	43.8%	44.5%
Other type of security	0.6%	0.4%	0.5%

Table 13. Security Measures by Gender

The table above shows that the use of anti-virus programs with 47.4 percent is the most used method for online protection with regularly updates of the applications a close second with 44.5 percent. The least used method is regular making password changes which is one of the best protection methods.

Overall satisfaction with internet (Table 15) experience on the island shows that 70 percent are satisfied with the internet speed and 71.5 percent are satisfied with the monthly cost of the internet. Nearly 80 percent (79.8%) are satisfied with the reliability of the internet.

Table 14. Score of satisfaction with internet	Average score	Disagree	Neutral	Agree
We are happy with the monthly cost of our fixed internet connection.	2.5	23.7%	3.5%	71.5%
We are happy with the reliability of our internet connection.	2.7	13.5%	5.2%	79.8%
We are happy with our internet speed.	2.5	24.9%	4.0%	70.0%

Table 14. Internet Satisfaction Scores

3.2.4 IDI Index

The United Nations International Communications Institute (ITU) has developed a unique benchmark of the level of ICT development in countries across the world. The ICT Development Index (IDI Index) combines eleven indicators on ICT access, use and skills, capturing key aspects of ICT development in one measure that allows for comparisons across countries and over time.

The IDI considers three different stages in its model. Stage 1 is ICT readiness which reflects the level of networked infrastructure and access to ICTs; Stage 2 is ICT intensity which reflects the level of use of ICTs in the society; and Stage 3 is the ICT impact reflecting the results / outcomes of more efficient and effective ICT use.

Table 15. ICT Development Index Indicators definition and Scoring

	Definition	Weight
ICT access: **Indicators included in this group provide an indication of the available ICT infrastructure and individuals' access to basic ICTs.**		40
1. Fixed-telephone subscriptions per 100 inhabitants	Fixed-telephone subscriptions refers to the sum of active analogue fixed-telephone lines, voiceover-IP (VoIP) subscriptions, fixed wireless local loop (WLL) subscriptions, ISDN voice-channel equivalents and fixed public payphones.	
2. Mobile-cellular telephone subscriptions per 100 inhabitants	Mobile-cellular telephone subscriptions refer to the number of subscriptions to a public mobile-telephone service providing access to the public switched telephone network (PSTN) using cellular technology. It includes both the number of postpaid subscriptions and the number of active prepaid accounts (i.e. that have been active during the past three months).	
3. International Internet bandwidth (bit/s) per internet user	International Internet bandwidth refers to the total used capacity of international Internet bandwidth, in megabits per second (Mbit/s).	
4. Percentage of households with a computer 100	Computer refers to a desktop computer, laptop (portable) computer, tablet or similar handheld computer. It does not include equipment with some embedded computing abilities, such as smart TV sets, or devices with telephony as a main function, such as mobile phones or smartphones. Household with a computer means that the computer is available for use by all members of the household at any time. The computer may or may not be owned by the household, but should be considered a household asset.	

Table 15. ICT Development Index Indicators definition and Scoring

5. Percentage of households with Internet access	The Internet is a worldwide public computer network. It provides access to a number of communication services, including the World Wide Web, and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only a computer; it may also be a mobile telephone, tablet, PDA, games machine, digital TV, and so on). Access can be via a fixed or mobile network. Household with Internet access means that the Internet is available for use by all members of the household at any time.	
ICT use: **The indicators included in this group capture ICT intensity and usage.**		40
6. Percentage of individuals using the Internet	Individuals using the Internet refers to people who used the Internet from any location and for any purpose, irrespective of the device and network used, in the last three months.	
7. Fixed-broadband subscriptions per 100 inhabitants	Fixed-broadband subscriptions refer to fixed subscriptions for high-speed access to the public Internet (a TCP/IP connection) at downstream speeds equal to or greater than 256 kbit/s. The total is measured irrespective of the method of payment. It excludes subscriptions that have access to data communications (including the Internet) via mobile-cellular networks.	
8. Active mobile-broadband subscriptions per 100 inhabitants	Active mobile-broadband subscriptions refers to the sum of standard mobile-broadband subscriptions and dedicated mobile-broadband subscriptions.	
ICT skills		20
9. Mean years of schooling	Mean years of schooling is the average number of completed years of education of a country's population, excluding years spent repeating individual grades	
10. Secondary gross enrolment ratio	The gross enrolment ratio is "the total enrolment in a specific level of education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school-year."	
11. Tertiary gross enrolment ratio	The gross enrolment ratio is "the total enrolment in a specific level of education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school-year."	

Table 15. ICT Development Index Indicators definition and Scoring

The IDI is a standardized measurement of the digital savviness within a country and it allows government, agencies and international organizations a tool to compare a country with itself and to other countries.

The ICT Development Index (IDI) has a maximum score of 10. Internationally, the highest scoring country, Ireland, in 2017 had a score of 8.98 (http://www.itu.int/net4/ITU-D/idi/2017/). Curaçao recorded an IDI of 6.9. On the current list, this means that we are in the 48th spot. The make-up of the score is 2.26 out of 4 on ICT Access, 3.17 out of 4 on ICT use, and 1.51 out of 2 on ICT skills. This means that the area where we can gain the most benefit of improvement is ICT Access.
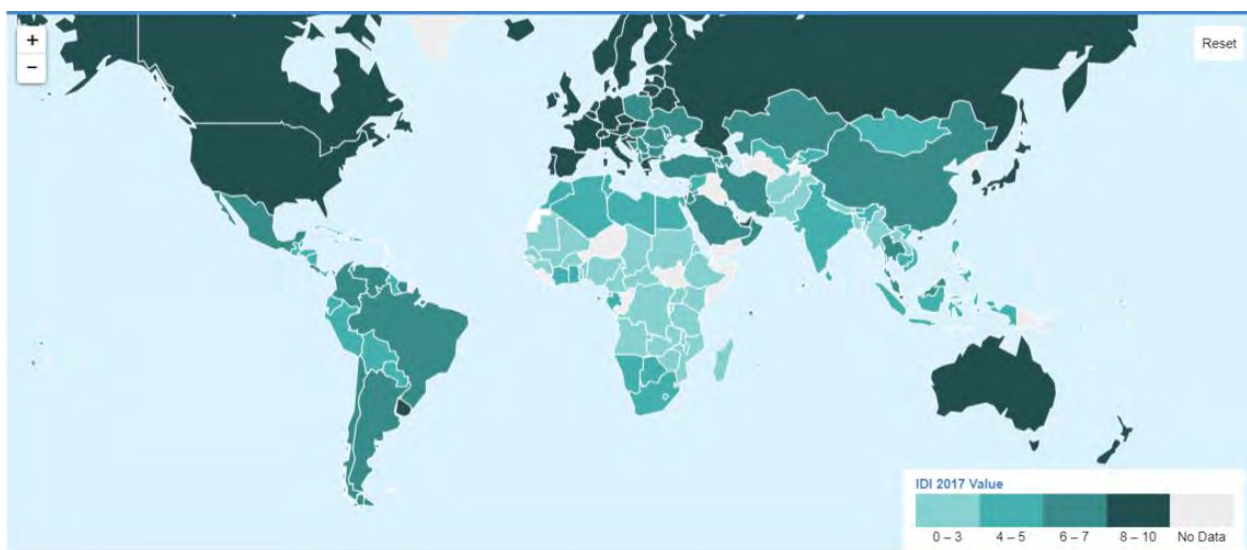
Figure 5. IDI Index 2017 Map

In the Caribbean, the highest scoring Caribbean island is Barbados with an IDI index score of 7.31 (Table 16). The index score of 6.94 puts Curaçao in the 4th spot in the Caribbean region. Even though this is in the top 5, there is still room for improvement.

Table 16. IDI Index ranking 2016-2017 for the Caribbean Region

Region: Caribbean	IDI 2017 Rank	Economy	IDI 2017 Value	IDI 2016 Rank	IDI 2016 Value
1	34	Barbados	7.31	37	7.11
2	37	St. Kitts and Nevis	7.24	35	7.18
3	57	Bahamas	6.51	58	6.29
4	68	Trinidad & Tobago	6.04	71	5.71
5	73	Grenada	5.8	77	5.39
6	76	Antigua & Barbuda	5.71	76	5.48
7	77	Dominica	5.69	69	5.76

8	82	St. Vincent and the Grenadines	5.54	80	5.27
9	98	Jamaica	4.84	96	4.63
10	104	St. Lucia	4.63	99	4.53
11	106	Dominican Republic	4.51	107	4.26
12	120	Belize	3.71	120	3.54
13	137	Cuba	2.91	135	2.8
14	168	Haiti	1.72	168	1.63

Table 16. IDI Index ranking 2016-2017 for the Americas Region

On a district basis, the IDI score has small differences. The region with the lowest IDI score is Center. This score is lower due to a lower ICT access score. The ICT access reflects the availability of ICT infrastructure and individuals' access to basic ICTs.

Table 17. IDI score by zone	*IDI score*	*ICT access*	*ICT use*	*ICT skills*
East	6.68	2.49	2.72	1.48
Center	6.07	1.80	2.77	1.50
East of Center	7.26	2.39	3.31	1.55
West of Center	7.00	2.29	3.23	1.48
West	6.79	2.14	3.09	1.55
All zones	6.94	2.26	3.17	1.51
Maximum score	10.0	4.00	4.00	2.00

Table 17. IDI score and Sub-index by Region

4. Conclusion

Gender and age show differences on ICT usage and integration. Younger people are more involved than older people and males are more involved than females. This phenomenon is not unusual as many countries have discovered the same trend. Research shows that this might be due to the type of work experienced by the males as opposed to females. It is more likely that males needed more digital skills in their employment than females.

Whilst computer and internet usage is not as high in private households, the data shows that computers and internet are used in other locations. Internet usage is high with social media one of the activities most used. Lower usage is recorded in the area of interactions involving payments and obtaining information.

An area for improvement in the IDI index is ICT access. This area covers the availability of internet and computer and bandwidth. The data shows that there is room for improvement in these indicators.

5. References

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6. Extra tables

Table 18. ICT Access	Telephone connection							
	Radio	TV	Any	Fixed only	Mobile only	Both fixed and mobile	Computer	Internet connection
Household composition								
Children under 15	18.5%	21.7%	14.6%	9.3%	2.0%	2.9%	13.8%	17.1%
No children under 15	54.5%	60.8%	50.5%	25.2%	7.4%	13.8%	31.4%	38.4%
Household Size								
1 person household	76.5%	86.1%	79.4%	16.5%	21.2%	31.9%	35.4%	40.9%
2 person household	75.9%	85.3%	66.8%	41.0%	4.8%	16.6%	46.1%	56.9%
3 - 5 person household	84.9%	96.0%	70.4%	50.5%	6.9%	10.2%	62.4%	77.0%
more than 5 person household	24.6%	29.0%	14.9%	10.5%	1.8%	2.6%	14.1%	21.1%
Household Income								
1. 0-1.000	79.9%	91.1%	70.6%	23.9%	20.3%	16.3%	22.6%	33.8%
2. 1.001-2.000	84.1%	93.1%	69.1%	32.0%	15.3%	16.7%	31.7%	43.0%
3. 2.001-3.000	84.4%	97.4%	73.1%	40.0%	8.4%	20.3%	51.3%	68.2%
4. 3.001-4.000	88.2%	96.0%	72.8%	42.2%	7.7%	19.3%	67.5%	75.7%
5. 4.001-5.000	85.1%	98.1%	83.1%	57.3%	6.1%	15.6%	70.4%	83.2%
6. 5.001-6.000	88.6%	98.6%	79.5%	43.4%	0.0%	29.4%	76.4%	93.4%
7. 6.001-7.000	82.2%	100.0%	83.4%	52.7%	6.5%	21.9%	69.6%	93.6%
8. 7.001-8.000	84.1%	92.0%	92.4%	66.5%	2.5%	21.0%	94.5%	97.4%
9. 8.001-9.000	83.0%	89.2%	83.9%	51.6%	7.1%	21.8%	100.0%	91.4%
10. 9.001-10.000	93.2%	100.0%	83.0%	55.3%	0.0%	20.9%	94.1%	100.0%
11. 10.000+	82.9%	100.0%	89.6%	57.6%	3.0%	29.0%	92.7%	100.0%
Zones								
East	85.9%	88.5%	75.0%	47.9%	7.5%	14.9%	52.2%	54.9%
Center	82.2%	91.1%	58.8%	9.0%	32.0%	12.0%	36.5%	29.2%
East of Center	72.8%	84.4%	65.3%	35.3%	8.8%	17.8%	47.9%	61.3%
West of Center	68.6%	77.4%	61.2%	31.4%	9.5%	15.4%	41.9%	52.9%
West	67.7%	82.2%	64.7%	25.4%	8.0%	21.7%	32.8%	47.7%
ALL households	**73.1%**	**82.5%**	**65.1%**	**34.5%**	**9.3%**	**16.6%**	**45.2%**	**55.6%**

Table 18. ICT Access Telephone connection

Table 19. Barriers to internet access	Do not need internet	Have access elsewhere	Lack confidence skills	High equipment cost	High service cost	Privacy or security concern	Internet service not available	Service available but not suitable	other
Household composition									
Children under 15	1.0%	1.4%	0.2%	2.9%	3.5%	0.3%	0.5%	0.2%	0.9%
No children under 15	9.3%	4.4%	2.8%	9.6%	12.8%	2.2%	2.5%	1.2%	4.8%
Household Size									
1 person household	5.2%	1.5%	1.5%	4.3%	5.7%	1.3%	1.0%	0.5%	2.5%
2 person household	3.3%	1.9%	1.1%	3.2%	4.3%	1.0%	1.1%	0.5%	1.7%
3 - 5 person household	1.6%	1.8%	0.3%	4.2%	5.6%	0.2%	0.8%	0.5%	1.3%
6 - 10 person household	0.1%	0.5%	0.1%	0.7%	0.7%	0.0%	0.0%	0.0%	0.3%
more than 10 person household	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Household Income									
1. 0-1000	3.6%	1.3%	1.0%	4.9%	6.0%	1.5%	1.2%	0.6%	1.4%
2. 1001-2000	4.0%	2.2%	0.9%	5.1%	6.1%	0.7%	1.1%	0.5%	1.7%
3. 2001-3000	1.6%	0.9%	0.6%	1.6%	2.1%	0.2%	0.4%	0.1%	1.8%
4. 3001-4000	0.6%	0.7%	0.1%	0.6%	1.2%	0.1%	0.2%	0.1%	0.6%
5. 4001-5000	0.3%	0.3%	0.3%	0.4%	0.4%	0.0%	0.0%	0.0%	0.2%
6. 5001-6000	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.0%	0.1%	0.0%
7. 6001-7000	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
8. 7001-8000	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
9. 8001-9000	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
10. 9001-10000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11. 10000+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ALL households	10.2%	5.7%	3.0%	12.5%	16.2%	2.5%	2.9%	1.4%	5.8%

Table 19. Barriers to Internet Access

Table 20. Individual ICT usage	Usage of computer	Usage of internet	Usage of mobile telephone
Age			
06 - 14	69.2%	63.8%	54.9%
15 - 24	89.3%	87.4%	95.6%
25 - 34	86.6%	84.5%	96.3%
35 - 44	78.3%	76.0%	96.5%
45 - 54	76.8%	77.0%	95.6%
55 - 64	62.5%	61.8%	93.8%
65 - 74	46.8%	46.3%	87.3%
75 and over	16.4%	16.4%	56.9%
Sex			
Male	69.0%	67.5%	86.5%
Female	70.4%	68.8%	87.9%
Unknown			
Highest education level			
Primary education or lower	50.1%	44.0%	48.1%
Lower secondary education	44.3%	41.9%	71.5%
Upper secondary education	73.3%	71.9%	94.5%
Tertiary education or higher	94.9%	94.0%	97.4%
Labour force status			
Employer	84.2%	81.8%	97.9%
Self-employed	86.7%	85.5%	98.1%
Casual worker/free-lancer	64.2%	64.2%	98.0%
(Unpaid) employee in family business	100.0%	100.0%	100.0%
Employee in permanent service	88.4%	87.3%	98.7%
Employee in temporary service: fixed-term contract, on-call worker	77.2%	73.6%	98.3%
Employee working for an employment agency	100.0%	100.0%	100.0%
Intern	100.0%	100.0%	100.0%
Looking for a job	60.5%	59.9%	91.2%
Taking daytime schooling (student)	93.2%	91.1%	97.2%
Retired	39.4%	39.1%	79.6%
Not studying, not working and not looking for a job	57.6%	56.3%	86.0%
Occupation			
1. Managers	93.4%	92.2%	100.0%
2. Professionals	96.6%	96.0%	100.0%
3. Technicians and Associate Professionals	94.1%	92.5%	100.0%
4. Clerical Support Workers	96.4%	95.9%	99.2%
5. Services and Sales Workers	79.1%	78.1%	98.3%
6. Skilled Agricultural, Forestry and Fishery Workers	38.4%	38.4%	71.0%
7. Craft and Related Trades Workers	72.9%	71.9%	97.4%
8. Plant and Machine Operators and Assemblers	75.7%	72.2%	96.9%

Table 20. Individual ICT usage	Usage of computer	Usage of internet	Usage of mobile telephone
9. Elementary Occupations	58.6%	56.5%	97.2%
0. Armed Forces Occupations	100.0%	92.2%	100.0%
ALL individuals	69.8%	68.2%	87.3%

Table 20. Individual ICT Usage

Table 21. Internet Usage Location	Home	Work	Place of education	Another person's home	Another person's work	Community interest access facility	Commercial internet access facility	In mobility	Other
Age									
06 - 14	59.7%	0.0%	18.3%	21.4%	2.4%	14.2%	12.2%	7.8%	4.4%
15 - 24	78.2%	13.9%	49.6%	48.9%	10.6%	42.3%	52.2%	40.3%	5.9%
25 - 34	75.0%	48.1%	14.0%	35.6%	11.2%	26.5%	42.2%	42.2%	6.2%
35 - 44	69.5%	42.8%	5.5%	24.6%	9.8%	19.1%	33.9%	33.3%	7.0%
45 - 54	71.5%	44.1%	4.8%	20.6%	6.0%	17.9%	30.0%	33.9%	4.4%
55 - 64	57.6%	23.8%	3.8%	10.7%	2.8%	7.9%	15.9%	16.8%	3.2%
65 - 74	44.4%	4.1%	0.5%	7.1%	1.2%	4.7%	9.6%	8.6%	1.5%
75 and over	14.9%	0.4%	0.0%	1.1%	0.4%	1.9%	3.0%	2.2%	0.0%
Sex									
Male	61.1%	24.8%	11.5%	22.6%	6.1%	17.8%	27.1%	26.9%	4.0%
Female	63.8%	25.2%	13.8%	22.8%	5.9%	18.2%	26.6%	23.9%	4.7%
Unknown									
Highest education level									
Primary education or lower	37.8%	0.0%	9.3%	3.0%	0.0%	0.0%	3.1%	3.1%	3.1%
Lower secondary education	37.7%	1.7%	4.4%	11.5%	0.7%	6.5%	11.3%	6.0%	2.6%
Upper secondary education	64.9%	24.1%	13.7%	22.3%	4.9%	20.4%	28.6%	26.9%	4.3%
Tertiary education or higher	94.6%	65.4%	21.4%	43.7%	19.0%	27.0%	45.2%	49.0%	7.9%
Labour force status									
1. Employer	71.1%	50.3%	4.3%	35.4%	16.3%	30.9%	45.7%	49.7%	0.0%
2. Self-employed	81.7%	44.8%	10.0%	29.6%	18.6%	27.1%	34.8%	43.8%	6.1%
3. Casual worker / freelancer	55.0%	19.2%	9.1%	18.8%	6.0%	20.6%	30.5%	25.6%	8.0%
4. Unpaid family worker)	73.3%	73.3%	35.4%	73.3%	0.0%	35.4%	73.3%	73.3%	26.7%
5. Employee in permanent service	81.7%	66.1%	7.6%	26.3%	8.4%	20.3%	37.0%	40.0%	5.3%
6. Employee in temporary service: contract for definite time, recall worker	65.5%	48.2%	7.9%	24.3%	5.8%	9.4%	21.0%	30.3%	10.9%
7. Work for an employment agency ('uitzendkracht')	100.0%	100.0%	0.0%	25.5%	26.7%	26.7%	25.5%	100.0%	0.0%
8. Intern	83.2%	18.8%	18.8%	69.4%	0.0%	69.4%	33.7%	33.7%	0.0%

Table 21. Internet Usage Location	Home	Work	Place of education	Another person's home	Another person's work	Community interest access facility	Commercial internet access facility	In mobility	Other
9. Unemployed	46.9%	1.3%	4.9%	20.9%	6.3%	17.2%	32.0%	14.4%	4.7%
10. Student	83.5%	8.4%	63.4%	53.5%	11.8%	47.6%	54.8%	41.8%	5.6%
11. Retired	37.1%	0.8%	0.6%	5.5%	0.8%	4.1%	7.2%	7.3%	1.5%
12. Economically inactive	50.9%	1.1%	2.4%	16.0%	1.0%	10.1%	20.8%	17.6%	1.2%
Occupation									
1. Managers	88.5%	86.5%	8.8%	30.2%	20.4%	30.6%	45.9%	61.7%	3.1%
2. Professionals	93.9%	81.4%	18.7%	38.2%	15.7%	25.2%	43.7%	52.9%	4.6%
3. Technicians and Associate Professionals	90.4%	77.4%	8.1%	41.8%	21.4%	40.1%	58.1%	53.7%	0.0%
4. Clerical Support Workers	91.7%	86.5%	7.4%	26.3%	5.4%	17.6%	31.3%	38.3%	5.5%
5. Services and Sales Workers	69.5%	42.9%	7.0%	23.7%	5.7%	23.0%	33.0%	30.9%	3.9%
6. Skilled Agricultural, Forestry and Fishery Workers	38.4%	0.0%	38.4%	38.4%	0.0%	38.4%	38.4%	38.4%	0.0%
7. Craft and Related Trades Workers	63.2%	20.4%	0.0%	17.9%	4.4%	14.2%	29.0%	27.0%	5.8%
8. Plant and Machine Operators and Assemblers	69.1%	48.0%	3.1%	19.4%	6.6%	16.2%	26.4%	29.5%	3.2%
9. Elementary Occupations	45.3%	17.9%	4.3%	12.0%	3.2%	12.2%	23.7%	20.0%	4.2%
0. Armed Forces Occupations	78.5%	62.3%	0.0%	15.1%	7.8%	13.7%	35.7%	42.7%	7.8%
ALL individuals	62.6%	25.0%	12.7%	22.7%	6.0%	18.0%	26.8%	25.3%	4.4%

Table 21. Internet Usage Location

Table 22. Computer Activities	Copying or moving a file or folder	Copying or pasting information in a document	Sending e-mail with a document as an attachment	Using simple formulas in a spreadsheet	Installing new devices, such as printers or modems	Finding, downloading, installing and configuring software	Making a presentation using software such as PowerPoint, including, for example, images, sound, videos or graphics	Moving files between computers and other devices, such as phones, cameras or music players	Writing a program in a programming language	Other
Age										
15 - 24	43.6%	56.5%	57.2%	34.1%	22.2%	34.9%	44.9%	49.4%	10.2%	5.6%
25 - 34	37.7%	47.7%	56.1%	34.3%	20.7%	32.5%	24.5%	40.9%	7.0%	5.6%
35 - 44	24.4%	35.4%	42.6%	30.1%	15.0%	24.6%	16.0%	27.9%	4.3%	4.9%
45 - 54	26.2%	33.8%	41.3%	28.0%	14.1%	19.6%	15.4%	24.0%	5.3%	5.4%
55 - 64	21.2%	25.9%	34.0%	17.8%	10.1%	12.6%	10.1%	15.7%	1.7%	4.9%
65 - 74	13.0%	12.7%	21.3%	8.6%	5.1%	7.6%	2.4%	7.3%	1.0%	6.2%
75 and over	3.8%	3.8%	6.4%	1.5%	1.1%	2.3%	1.5%	2.6%	0.8%	4.5%
Sex										
Male	23.3%	28.9%	34.7%	20.9%	14.5%	20.9%	16.5%	24.6%	5.0%	3.5%
Female	22.7%	29.7%	35.3%	21.5%	10.0%	15.8%	14.9%	21.2%	3.4%	5.6%
Highest education level										
Primary education or lower	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%
Lower secondary education	0.8%	1.4%	2.0%	1.2%	0.0%	0.4%	0.2%	1.6%	0.0%	1.7%
Upper secondary education	22.4%	29.3%	35.8%	19.9%	11.5%	17.6%	15.5%	22.3%	4.7%	5.8%
Tertiary education or higher	58.5%	71.5%	81.7%	56.4%	32.2%	46.8%	39.3%	56.2%	7.8%	4.7%
Labour force status										
1. Employer	32.1%	43.0%	54.5%	29.5%	16.9%	25.3%	12.0%	35.4%	4.2%	7.9%
2. Self-employed	34.5%	46.7%	58.0%	36.2%	31.4%	39.5%	28.6%	42.9%	5.8%	5.3%
3. Casual worker / freelancer	15.1%	19.2%	21.4%	11.7%	7.0%	11.1%	6.5%	18.1%	1.3%	5.7%
4. Unpaid family worker)	35.4%	73.3%	73.3%	35.4%	0.0%	73.3%	35.4%	73.3%	0.0%	26.7%
5. Employee in permanent service	38.4%	50.0%	59.9%	41.7%	19.7%	28.4%	22.9%	36.3%	7.6%	6.0%
6. Employee in temporary service: contract for definite time, recall worker	22.0%	27.0%	37.3%	17.3%	10.0%	18.5%	14.9%	20.7%	1.0%	4.5%
7. Work for an employment agency ('uitzendkracht')	74.5%	74.5%	74.5%	21.1%	47.8%	74.5%	26.7%	74.5%	0.0%	0.0%
8. Intern	35.7%	48.4%	49.5%	18.8%	0.0%	35.7%	0.0%	35.7%	0.0%	17.9%
9. Unemployed	11.0%	14.9%	15.1%	10.3%	5.0%	11.2%	6.3%	14.9%	1.5%	3.7%
10. Student	51.3%	65.8%	65.9%	41.7%	27.1%	41.2%	57.3%	55.7%	13.8%	4.8%
11. Retired	9.4%	10.4%	16.5%	5.9%	4.2%	6.9%	2.3%	6.0%	0.6%	4.9%

Table 22. Computer Activities	Copying or moving a file or folder	Copying or pasting information in a document	Sending e-mail with a document as an attachment	Using simple formulas in a spreadsheet	Installing new devices, such as printers or modems	Finding, downloading, installing and configuring software	Making a presentation using software such as PowerPoint, including, for example, images, sound, videos or graphics	Moving files between computers and other devices, such as phones, cameras or music players	Writing a program in a programming language	Other
12. Economically inactive	12.3%	14.5%	21.0%	7.0%	5.6%	6.7%	5.9%	10.9%	0.6%	5.3%
Occupation										
1. Managers	55.5%	67.8%	79.5%	62.5%	30.8%	37.7%	45.3%	55.7%	9.8%	5.3%
2. Professionals	62.5%	78.8%	88.9%	60.6%	35.4%	45.4%	39.8%	62.3%	13.8%	3.3%
3. Technicians and Associate Professionals	51.8%	72.1%	81.0%	63.4%	35.9%	50.9%	37.2%	56.8%	11.9%	5.3%
4. Clerical Support Workers	56.7%	66.8%	82.7%	58.4%	26.2%	34.9%	27.9%	42.4%	6.6%	4.0%
5. Services and Sales Workers	15.3%	23.2%	28.9%	15.1%	5.9%	13.6%	6.9%	17.3%	2.1%	9.7%
6. Skilled Agricultural, Forestry and Fishery Workers	38.4%	38.4%	0.0%	38.4%	0.0%	38.4%	38.4%	38.4%	0.0%	0.0%
7. Craft and Related Trades Workers	9.8%	13.2%	21.0%	8.5%	6.5%	14.2%	3.5%	13.5%	2.9%	2.4%
8. Plant and Machine Operators and Assemblers	31.1%	38.7%	57.6%	25.5%	19.4%	22.8%	12.4%	29.1%	9.7%	5.8%
9. Elementary Occupations	6.9%	8.8%	9.4%	3.8%	3.3%	7.7%	3.0%	9.2%	0.0%	8.3%
0. Armed Forces Occupations	28.0%	43.8%	64.5%	29.6%	29.6%	36.6%	14.5%	14.5%	0.0%	7.8%
ALL individuals	23.0%	29.4%	35.0%	21.2%	12.0%	18.1%	15.6%	22.7%	4.1%	4.7%

Table 22. Computer Activities

Table 23. Use Home Internet	Mobile phone	Tablet	E-reader	Laptop	Desktop (PC)	Game console	Other
Age							
06-14	40.7%	29.2%	0.3%	20.7%	18.0%	15.0%	1.4%
15 - 24	82.2%	20.8%	1.6%	59.1%	24.4%	14.3%	2.5%
25 - 34	81.3%	26.0%	1.4%	47.8%	30.4%	8.1%	2.4%
35 - 44	73.1%	19.7%	3.6%	36.7%	22.4%	6.8%	2.1%
45 - 54	71.7%	19.8%	1.7%	35.3%	26.7%	2.4%	1.5%
55 - 64	55.6%	15.0%	0.6%	28.3%	24.1%	0.6%	1.1%
65 - 74	40.9%	9.8%	0.7%	20.3%	16.4%	0.7%	1.0%
75 and over	10.8%	5.2%	0.0%	6.0%	7.1%	0.0%	0.7%
Sex							
Male	59.3%	18.0%	1.3%	33.6%	24.0%	9.1%	1.9%
Female	62.7%	20.0%	1.5%	34.2%	21.3%	3.8%	1.4%
Highest education level							
Primary education or lower	25.5%	15.5%	3.1%	17.7%	6.2%	15.5%	0.0%
Lower secondary education	29.0%	12.9%	0.0%	9.7%	7.5%	5.6%	0.8%
Upper secondary education	67.0%	16.6%	0.9%	33.3%	22.2%	6.0%	1.2%
Tertiary education or higher	87.1%	39.0%	5.1%	72.6%	46.5%	7.1%	4.6%
Labour force status							
1. Employer	72.7%	22.9%	2.0%	49.2%	33.0%	2.4%	3.9%
2. Self-employed	77.4%	36.0%	2.1%	55.0%	31.1%	6.6%	4.9%
3. Casual worker / freelancer	61.5%	11.5%	0.0%	25.7%	12.9%	1.4%	0.6%
4. Unpaid family worker)	100.0%	37.9%	0.0%	100.0%	35.4%	0.0%	0.0%
5. Employee in permanent service	82.8%	25.1%	2.9%	46.0%	37.3%	6.0%	0.9%
6. Employee in temporary service: contract for definite time, recall worker	70.4%	19.1%	3.9%	37.0%	16.6%	2.8%	2.9%
7. Work for an employment agency ('uitzendkracht')	100.0%	0.0%	0.0%	52.2%	74.5%	0.0%	0.0%
8. Intern	100.0%	18.8%	0.0%	66.3%	0.0%	0.0%	36.8%
9. Unemployed	56.2%	11.4%	0.6%	19.3%	8.2%	7.3%	2.3%
10. Student	86.7%	22.6%	1.2%	63.5%	28.3%	16.6%	3.2%
11. Retired	33.3%	8.6%	0.5%	16.1%	12.6%	0.4%	1.0%
12. Economically inactive	51.5%	10.3%	0.0%	23.7%	12.9%	2.2%	0.6%
Occupation							
1. Managers	79.4%	46.9%	1.4%	68.5%	47.7%	3.7%	4.1%
2. Professionals	88.9%	38.6%	6.0%	70.7%	47.2%	5.8%	3.3%
3. Technicians and Associate Professionals	89.4%	38.9%	5.0%	58.8%	52.3%	16.9%	1.6%
4. Clerical Support Workers	93.9%	26.9%	3.6%	54.5%	54.5%	4.7%	0.0%
5. Services and Sales Workers	74.9%	19.1%	1.4%	33.1%	14.8%	4.3%	0.9%
6. Skilled Agricultural, Forestry and Fishery Workers	38.5%	0.0%	0.0%	38.5%	38.5%	0.0%	0.0%

Table 23. Use Home Internet	Mobile phone	Tablet	E-reader	Laptop	Desktop (PC)	Game console	Other
7. Craft and Related Trades Workers	66.5%	11.1%	1.0%	24.2%	13.5%	2.0%	0.8%
8. Plant and Machine Operators and Assemblers	63.0%	11.9%	0.0%	26.9%	33.7%	0.0%	0.0%
9. Elementary Occupations	53.5%	5.8%	0.7%	16.3%	8.3%	0.7%	0.6%
0. Armed Forces Occupations	92.3%	26.9%	0.0%	34.2%	43.0%	7.8%	0.0%
ALL individuals	61.2%	19.1%	1.4%	33.9%	22.5%	6.2%	1.6%

Table 23. Use Internet at home

Table 24. IDI 2017 Rank					
	Country	IDI 2017 Value	IDI 2016 Rank	IDI 2016 Value	Rank Change
1	Iceland	8.98	2	8.78	Up /\
2	Korea (Rep.)	8.85	1	8.8	Down V
3	Switzerland	8.74	4	8.66	Up /\
4	Denmark	8.71	3	8.68	Down V
5	United Kingdom	8.65	5	8.53	-
6	Hong Kong, China	8.61	6	8.47	-
7	Netherlands	8.49	10	8.4	Up /\
8	Norway	8.47	7	8.45	Down V
9	Luxembourg	8.47	9	8.4	-
10	Japan	8.43	11	8.32	Up /\
11	Sweden	8.41	8	8.41	Down V
12	Germany	8.39	13	8.2	Up /\
13	New Zealand	8.33	12	8.23	Down V
14	Australia	8.24	16	8.08	Up /\
15	France	8.24	17	8.05	Up /\
16	United States	8.18	15	8.13	Down V
17	Estonia	8.14	14	8.16	Down V
18	Singapore	8.05	20	7.85	Up /\
19	Monaco	8.05	18	8.03	Down V
20	Ireland	8.02	19	7.9	Down V
21	Austria	8.02	24	7.7	Up /\
22	Finland	7.88	21	7.83	Down V
23	Israel	7.88	22	7.71	Down V
24	Malta	7.86	25	7.65	Up /\
25	Belgium	7.81	23	7.7	Down V
26	Macao, China	7.8	29	7.55	Up /\
27	Spain	7.79	27	7.61	-
28	Cyprus	7.77	31	7.3	Up /\
29	Canada	7.77	26	7.64	Down V
30	Andorra	7.71	28	7.58	Down V
31	Bahrain	7.6	30	7.46	Down V
32	Belarus	7.55	32	7.29	-
33	Slovenia	7.38	33	7.2	-
34	Barbados	7.31	37	7.11	Up /\
35	Latvia	7.26	40	7.05	Up /\
36	Croatia	7.24	42	6.96	Up /\
37	St. Kitts and Nevis	7.24	35	7.18	Down V
38	Greece	7.23	38	7.08	-
39	Qatar	7.21	36	7.12	Down V
40	United Arab Emirates	7.21	34	7.18	Down V

Table 24. IDI 2017 Rank					
41	Lithuania	7.19	41	6.97	-
42	Uruguay	7.16	48	6.75	Up ∧
43	Czech Republic	7.16	39	7.06	Down ∨
44	Portugal	7.13	44	6.88	-
45	Russian Federation	7.07	43	6.91	Down ∨
46	Slovakia	7.06	47	6.84	Up ∧
47	Italy	7.04	46	6.84	Down ∨
48	Hungary	6.93	49	6.74	Up ∧
49	Poland	6.89	50	6.73	Up ∧
50	Bulgaria	6.86	53	6.66	Up ∧
51	Argentina	6.79	52	6.68	Up ∧
52	Kazakhstan	6.79	51	6.72	Down ∨
53	Brunei Darussalam	6.75	54	6.56	Up ∧
54	Saudi Arabia	6.67	45	6.87	Down ∨
55	Serbia	6.61	55	6.51	-
56	Chile	6.57	59	6.28	Up ∧
57	Bahamas	6.51	58	6.29	Up ∧
58	Romania	6.48	61	6.23	Up ∧
59	Moldova	6.45	63	6.21	Up ∧
60	Costa Rica	6.44	57	6.29	Down ∨
61	Montenegro	6.44	56	6.3	Down ∨
62	Oman	6.43	64	6.14	Up ∧
63	Malaysia	6.38	62	6.22	Down ∨
64	Lebanon	6.3	65	6.09	Up ∧
65	Azerbaijan	6.2	60	6.25	Down ∨
66	Brazil	6.12	67	5.89	Up ∧
67	Turkey	6.08	72	5.66	Up ∧
68	Trinidad & Tobago	6.04	71	5.71	Up ∧
69	TFYR Macedonia	6.01	68	5.88	Down ∨
70	Jordan	6	66	5.97	Down ∨
71	Kuwait	5.98	70	5.75	Down ∨
72	Mauritius	5.88	75	5.51	Up ∧
73	Grenada	5.8	77	5.39	Up ∧
74	Georgia	5.79	73	5.59	Down ∨
75	Armenia	5.76	74	5.56	Down ∨
76	Antigua & Barbuda	5.71	76	5.48	-
77	Dominica	5.69	69	5.76	Down ∨
78	Thailand	5.67	79	5.31	Up ∧
79	Ukraine	5.62	78	5.31	Down ∨
80	China	5.6	83	5.17	Up ∧
81	Iran (I.R.)	5.58	85	5.04	Up ∧

Table 24. IDI 2017 Rank					
82	St. Vincent and the Grenadines	5.54	80	5.27	Down V
83	Bosnia and Herzegovina	5.39	81	5.23	Down V
84	Colombia	5.36	84	5.12	-
85	Maldives	5.25	86	4.97	Up ∧
86	Venezuela	5.17	82	5.22	Down V
87	Mexico	5.16	90	4.87	Up ∧
88	Suriname	5.15	94	4.77	Up ∧
89	Albania	5.14	89	4.9	-
90	Seychelles	5.03	92	4.8	Up ∧
91	Mongolia	4.96	87	4.91	Down V
92	South Africa	4.96	88	4.91	Down V
93	Cape Verde	4.92	91	4.83	Down V
94	Panama	4.91	93	4.8	Down V
95	Uzbekistan	4.9	103	4.48	Up ∧
96	Peru	4.85	97	4.61	Up ∧
97	Ecuador	4.84	101	4.52	Up ∧
98	Jamaica	4.84	96	4.63	Down V
99	Tunisia	4.82	95	4.7	Down V
100	Morocco	4.77	98	4.57	Down V
101	Philippines	4.67	100	4.52	Down V
102	Algeria	4.67	106	4.32	Up ∧
103	Egypt	4.63	104	4.44	Up ∧
104	St. Lucia	4.63	99	4.53	Down V
105	Botswana	4.59	102	4.51	Down V
106	Dominican Rep.	4.51	107	4.26	Up ∧
107	Fiji	4.49	105	4.34	Down V
108	Viet Nam	4.43	108	4.18	-
109	Kyrgyzstan	4.37	110	4.06	Up ∧
110	Tonga	4.34	109	4.13	Down V
111	Indonesia	4.33	114	3.85	Up ∧
112	Bolivia	4.31	115	3.84	Up ∧
113	Paraguay	4.18	111	4.02	Down V
114	Gabon	4.11	118	3.62	Up ∧
115	Libya	4.11	112	3.93	Down V
116	Ghana	4.05	113	3.88	Down V
117	Sri Lanka	3.91	116	3.77	Down V
118	Namibia	3.89	123	3.33	Up ∧
119	El Salvador	3.82	117	3.62	Down V
120	Belize	3.71	120	3.54	-
121	Bhutan	3.69	119	3.58	Down V
122	Timor-Leste	3.57	127	3.11	Up ∧

Table 24. IDI 2017 Rank					
123	Palestine	3.55	122	3.42	Down ∨
124	Guyana	3.44	121	3.44	Down ∨
125	Guatemala	3.35	125	3.19	-
126	Syria	3.34	124	3.32	Down ∨
127	Samoa	3.3	129	2.95	Up ∧
128	Cambodia	3.28	128	3.04	-
129	Honduras	3.28	126	3.14	Down ∨
130	Nicaragua	3.27	132	2.85	Up ∧
131	Côte d'Ivoire	3.14	134	2.84	Up ∧
132	S. Tomé & Principe	3.09	131	2.91	Down ∨
133	Lesotho	3.04	130	2.94	Down ∨
134	India	3.03	138	2.65	Up ∧
135	Myanmar	3	140	2.59	Up ∧
136	Zimbabwe	2.92	133	2.85	Down ∨
137	Cuba	2.91	135	2.8	Down ∨
138	Kenya	2.91	137	2.67	Down ∨
139	Lao P.D.R.	2.91	144	2.43	Up ∧
140	Nepal	2.88	139	2.6	Down ∨
141	Vanuatu	2.81	136	2.75	Down ∨
142	Senegal	2.66	142	2.48	-
143	Nigeria	2.6	143	2.44	-
144	Gambia	2.59	145	2.43	Up ∧
145	Sudan	2.55	141	2.56	Down ∨
146	Zambia	2.54	149	2.19	Up ∧
147	Bangladesh	2.53	146	2.37	Down ∨
148	Pakistan	2.42	148	2.21	-
149	Cameroon	2.38	150	2.14	Up ∧
150	Mozambique	2.32	147	2.23	Down ∨
151	Mauritania	2.26	152	2.08	Up ∧
152	Uganda	2.19	158	1.9	Up ∧
153	Rwanda	2.18	151	2.1	Down ∨
154	Kiribati	2.17	155	2.04	Up ∧
155	Mali	2.16	153	2.05	Down ∨
156	Togo	2.15	159	1.86	Up ∧
157	Solomon Islands	2.11	154	2.04	Down ∨
158	Djibouti	1.98	161	1.8	Up ∧
159	Afghanistan	1.95	165	1.71	Up ∧
160	Angola	1.94	156	2	Down ∨
161	Benin	1.94	157	1.92	Down ∨
162	Burkina Faso	1.9	163	1.74	Up ∧
163	Equatorial Guinea	1.86	160	1.82	Down ∨
164	Comoros	1.82	162	1.78	Down ∨

Table 24. IDI 2017 Rank

165	Tanzania	1.81	164	1.73	Down ∨
166	Guinea	1.78	166	1.71	-
167	Malawi	1.74	169	1.58	Up ∧
168	Haiti	1.72	168	1.63	-
169	Madagascar	1.68	167	1.7	Down ∨
170	Ethiopia	1.65	171	1.42	Up ∧
171	Congo (Dem. Rep.)	1.55	170	1.48	Down ∨
172	Burundi	1.48	172	1.39	-
173	Guinea-Bissau	1.48	173	1.38	-
174	Chad	1.27	174	1.06	-
175	Central African Rep.	1.04	176	0.89	Up ∧
176	Eritrea	0.96	175	0.96	Down ∨

Table 24. IDI 2017 Rank