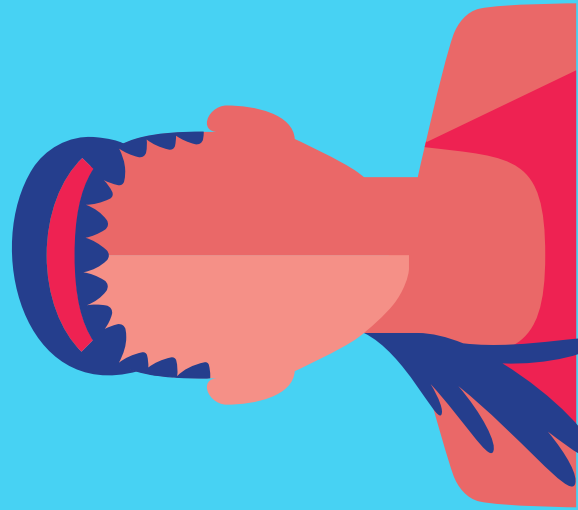dot **digital opportunity trust**

YOUTH VOICES:

DIGITAL LIVES AND LIVELIHOODS IN AFRICA, THE MIDDLE EAST AND INDIGENOUS CANADA

August 2016 | Digital Opportunity Trust

EXECUTIVE SUMMARY

In 2015, Digital Opportunity Trust (DOT) engaged a group of 19 talented young people from our global network to lead a research initiative that investigated how youth are using technology in their daily lives. Through the project, we sought to better understand what technology youth have access to and how that access varies across socioeconomic, geographic, and demographic categories.

580 youth from Ethiopia, Kenya, Rwanda, Uganda, Tanzania, Lebanon and Indigenous Canada participated in the project, answering questions about how they use technology for work, education, entrepreneurship, leadership, learning, and, of course, fun.

Led by young local researchers who are deeply familiar with their communities, our data forms an important baseline for a demographic that is missing from existing literature about digital adoption and inclusion.

Derived from peer-to-peer dialogue and engagement, our research provides key insights into how youth are engaging with technology. We found that a majority of young people in developing economies have regular, sustained access to technology and the Internet; that a digital gender gap persists; that affordability and language are significant barriers to access for youth; that young people are intuitively finding and creating entrepreneurial opportunities online; and that youth are using technology to raise awareness about causes and issues that matter to them, to share information and ideas, and to influence others.

Through the course of our research, patterns emerged around how young people engage with technology. We identified four types of technology users, each taking advantage of their access and skills in distinct ways:

- **The Infrequent Technology User:** youth with infrequent access to the Internet; often in a rural environment.

- **The Connected User:** youth who access the Internet on their smartphones every day; often in urban areas.

- **The Entrepreneurial User:** youth who regularly use technology to support an entrepreneurial venture through marketing, advertising and engaging with customers.

- **The Change-maker User:** youth who use technology to connect to the world, inform themselves about social issues, and lead change-making initiatives in their communities.

DOT believes that young people across all four of these user types, when supported with skills, knowledge and networks, can lead positive social and economic change with technology.

Our findings have allowed us to develop three key recommendations for how governments, development practitioners, and the private sector can engage youth to co-create inclusive digital opportunities:

- The digital gender gap persists, and closing it is critical to ensuring that young people all over the world have equal access to opportunities, education, and well-being. UN Women and the ITU have identified key action areas, including the creation of safe spaces, building digital capacities, and developing relevant content, to close the digital gender gap — important recommendations that all sectors should commit to engaging in with youth as solution-builders.

- Among the five commonly identified barriers to digital adoption, youth consistently say that the absence of content relevant to local linguistic, cultural and social contexts is one of the most significant barriers to their use of technology.

However, young people are taking action — becoming creators of truly local content. As natural adopters of technology with deep insight into the needs of their communities, young people should be supported to fulfill the demand for impactful, local content.

- Representing the world's largest demographic, youth are intuitively using technology to define new livelihoods and to lead positive social and economic change within their communities and peer groups. It is fundamentally important to bring their voices into development dialogue.

We are pleased to share the following report with you as part of DOT's Youth Voices series, which engages young people as important participants in global discussions about technology, development, and social and economic change.

THE FOUR TYPES OF TECHNOLOGY USERS ▼

The Infrequent Technology User

The Connected User

The Entrepreneurial User

The Change-maker User

A SPECIAL THANK YOU TO OUR YOUTH RESEARCHERS

Without our hardworking youth researchers, we would not have been able to conduct this research or gain this youth-led insight into how young people are using technology. The peer-to-peer nature of our project was critical to its success, and we are thankful to our researchers and our network of intelligent and engaged young people around the world.
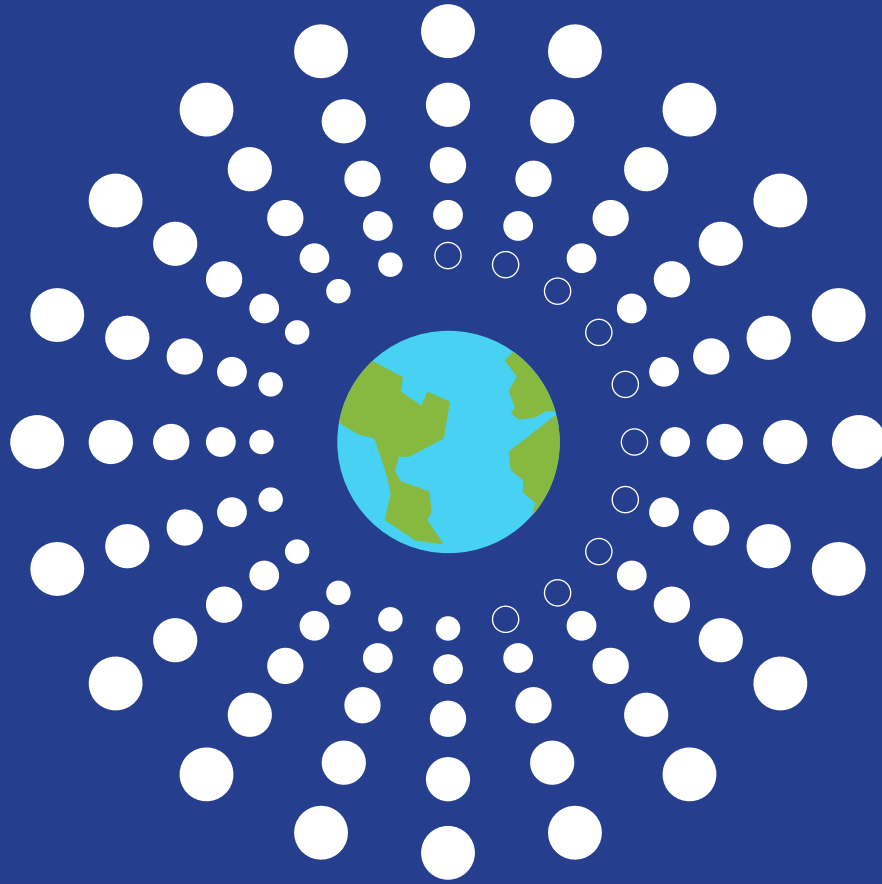
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SECTION 1

INTRODUCTION

**IN LESS THAN TEN YEARS,
YOUTH WILL BE 90%
OF THE POPULATION
IN DEVELOPING COUNTRIES.**

INTRODUCTION TO DIGITAL LIVES AND LIVELIHOODS

There are one billion young people in the world today between the ages of 15 and 24. This number will continue to grow. According to the World Assembly of Youth, youth will form 90% of the population in developing countries by 2025.[1]

Technology is a powerful tool for young people to achieve and create educational, social and economic opportunities. At DOT, we believe that not only is technology key to education and employment opportunities for youth, but also that young people can lead positive social and economic change with technology when supported with the skills, knowledge, and networks to do so.

Understanding how young people are tapping into technology for work, education, entrepreneurship, leadership, learning and, of course, fun, is a critical foundation to supporting youth to become leaders and change-makers with sustainable social and economic impact.

The technology landscape is constantly changing, and the ways youth around the globe use technology evolves just as quickly. We strive to understand these changes so that our programs and practices can evolve alongside the needs of young people, and so that DOT can effectively support youth as leaders and change-makers in their own communities.

We also work to position youth voices, experience, and expertise at the forefront of development dialogue. As natural early adopters of technology, digital natives,[2] and the biggest demographic population in the world, young people are already transforming economies

and leading change in ways that are tremendously impactful, but not always visible. It is critical for development practitioners, governments, and the private sector to understand the social and economic potential of young people, their motivations, the change they are effecting, and how they are going about it.

The best way to learn how youth use technology is to listen to them. So that's what we did. In July 2015, DOT launched a research project to learn more about how young people use digital technology and social media in Ethiopia, Kenya, Rwanda, Uganda, Tanzania, Lebanon and Indigenous Canada.

Our youth researchers spoke to 580 young people to answer two key research questions:

1. How do young people use technology in their daily lives?

2. What technology do youth have access to, and how does access vary across socioeconomic, geographic, and demographic categories?

The answers to these questions are informing DOT's program development and digital strategy so that we can increase the scale and depth of our impact among youth and in communities. We also hope this research will form a starting point for ongoing dialogue among governments, development practitioners, the private sector, and young people themselves about youth social and economic engagement, digital inclusion, empowerment, and technology.

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1 World Assembly of Youth, "Youth and ICT" (2016) **2** Digital native: a person born or brought up during the age of digital technology.

OUR
RESEARCHERS

In 2015, we drew on the talented DOT network of more than 5,000 young people to lead our research. We engaged 19 youth from seven countries to connect with young people in their communities. The researchers were DOT alumni — expert facilitators and youth advocates with deep understanding of their local communities.

Over eight weeks, the researchers developed research plans, stakeholder maps, and performed landscape assessments before conducting qualitative and quantitative research to learn more about how youth are using technology and digital tools for work, education, entrepreneurship, leadership, learning, and fun.

Joan Kwatampora
Uganda

Herbert Omoding
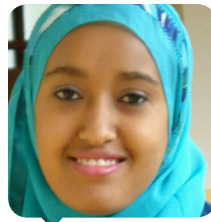Uganda

Josephine Tumukunde
Rwanda

Billy Muneza Mukama
Rwanda

Anne Rose Ng'endo
Kenya

Edwin Nyakoyo
Kenya

Dehab Mustefa
Ethiopia

Fitih Abera
Ethiopia

OUR RESEARCHERS CONTINUED ▼

Winfrida Gowelle
Tanzania

Maya El Helou
Lebanon

Talal Hawchar
Lebanon

Lucienne Ghreichy
Lebanon

Balsam Attieh
Lebanon

Souad Taha
Lebanon

Houssam Shamsedine
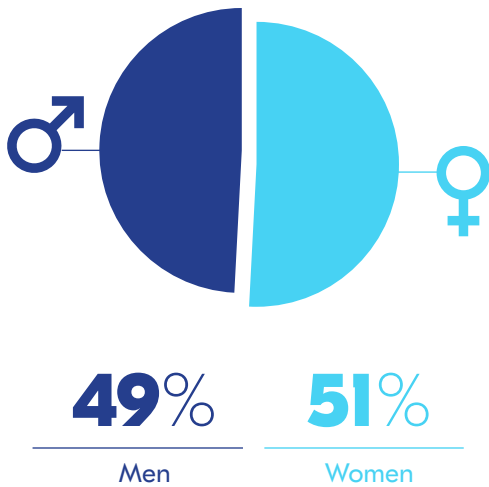Lebanon

Nada Ismail
Lebanon

Zeina Fakhry
Lebanon

Brock Lewis
Canada

OUR 580
RESEARCH PARTICIPANTS

GENDER ▼

49% Men

51% Women

AGE ▼

12%
31-35 Years

32%
25-30 Years

37%
20-24 Years

19%
16-19 Years

LOCATION ▼

Urban — **56**%

Peri-urban — **21**%

Rural — **19**%

Refugee camps — **2**%

N/A — **2**%
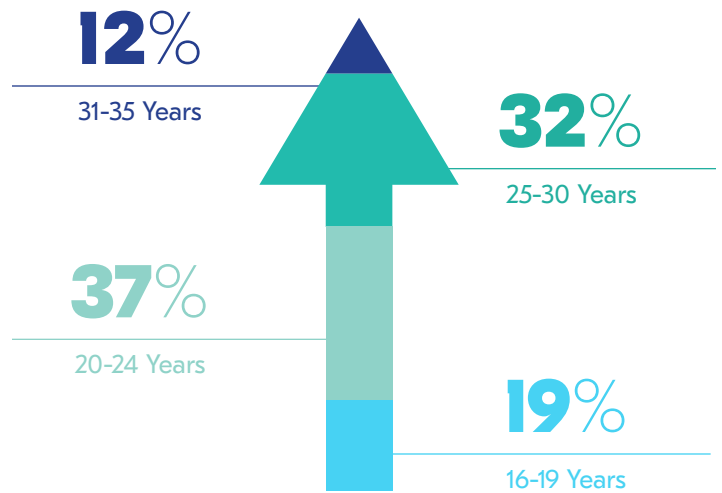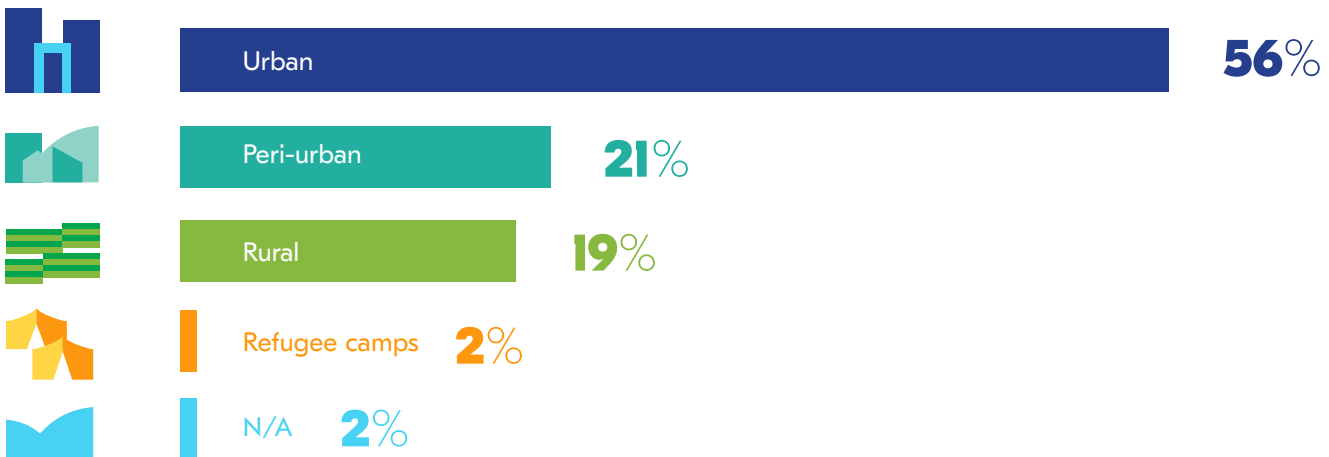
**LOCATIONS OF OUR
580 RESEARCH PARTICIPANTS** ▼

24
Canada

75
Lebanon

102
Ethiopia

104
Uganda

101
Rwanda

85
Tanzania

89
Kenya
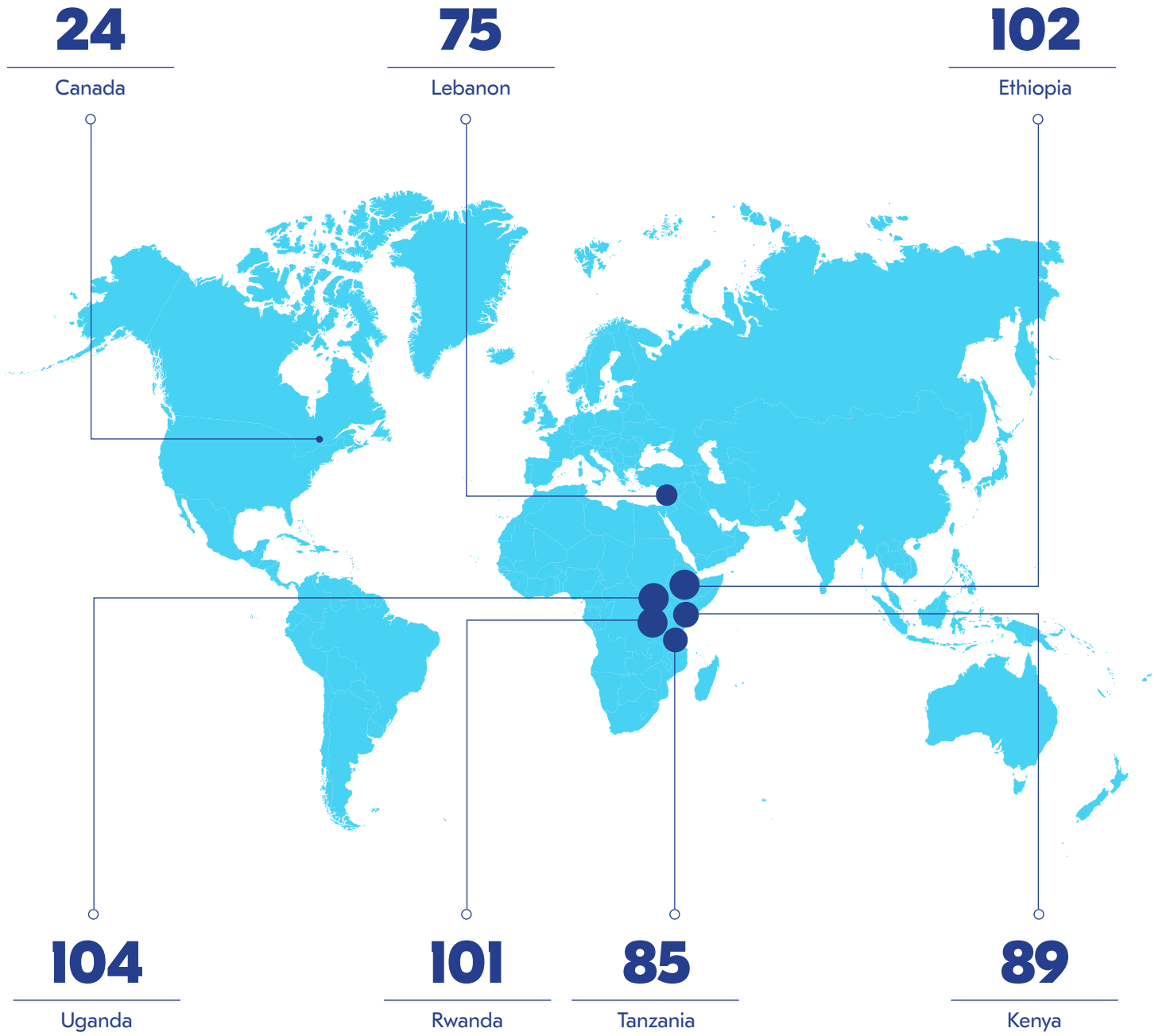
SEVEN THINGS WE'VE LEARNED ABOUT YOUTH AND TECHNOLOGY

1 Across the seven countries we surveyed, the majority of youth have regular, sustained access to technology and the Internet.

2 There is a gender gap: women are more likely to have infrequent access to technology than men.

3 Affordability and language are important factors in determining whether youth can access technology.

4 A creative minority of young people are finding work opportunities and generating income online.

5 Young entrepreneurs are increasingly relying on technology and social media to build their businesses.

6 Youth are using technology to share information and influence others.

7 The network effect is important: young people are more likely to use a digital service if their friends are using it.

SOME OF THE THINGS
YOUNG PEOPLE TOLD US

HOW DO YOU USE THE INTERNET OR DIGITAL SERVICES TO GENERATE AN INCOME?

"I use the Internet to share my products and services with other people and to find customers. I share photos of my products, like dresses, through Instagram, Facebook and WhatsApp mostly."

— Rwanda, female, age 20-24, urban, college or university graduate, microenterprise owner

"When I go on the Internet, I download music and movies and then sell them to people in my community who do not have Internet access. This is a common thing me and my friends do. It's a simple way to earn money."

— Tanzania, male, age 25-30, urban, secondary school graduate, employed

HOW DOES THE INTERNET HELP YOU HAVE A POSITIVE IMPACT IN YOUR COMMUNITY?

"I connect working people within my [refugee] camp with suppliers, workers, and services in other communities. I feel like the Internet has helped me build many connections outside of the camp."

— Lebanon, male, age 31-35, refugee camp, early school leaver, unemployed

"Sharing my positive experiences on social networks may push others to aim high. For example, sharing my grad pictures on Facebook could show youth in my community that anyone can do it."

— Lebanon, female, age 20-24, rural, college or university graduate, unemployed

IF YOU HAVE PARTICIPATED IN ONLINE COURSES, WHAT WAS THE BEST PART AND WHAT WAS MOST CHALLENGING?

"The challenge was Internet stability. Connectivity was a huge problem. But the best part was that there were no fees aside from getting Internet."

— Tanzania, female, age 25-30, urban, college or university graduate, employed

"As much as it was free, it was too expensive because it consumed too much data due to video and downloads. I did like that I could attend at my convenience."

— Uganda, female, age 20-24, urban, college or university graduate, unemployed

METHODOLOGY

Tasked with finding a balanced and diverse demographic and geographic sample for the research project, our 19 researchers reached out to the extensive networks they established during their time as DOT program facilitators. Each researcher identified up to 50 young people to participate in a mixed qualitative and quantitative survey.

Each researcher was asked to build a sample of youth respondents that was:

- **Gender balanced** — an even distribution of male and female;
- **Between the ages of 15 and 35**, with at least 60% of the sample falling between the ages of 20 and 30;
- **Evenly distributed** across urban, peri-urban, and rural geographies;
- **Representative of a variety of educational backgrounds**, including early school leavers,[3] secondary school graduates, and vocational school, college, and university graduates.

Over the six-week period from July 13 to August 21, 2015, researchers connected with their respondents to gather data in a variety of ways, including:

- One-on-one interviews with survey participants
- Small focus groups
- Surveys completed by survey participants

A total of 580 youth participated in the project, offering insights across several thematic areas, including access to technology, the Internet, and digital services; and technology, the Internet, and digital services for entertainment, work, income, learning, leadership, and entrepreneurship.

In many cases, our respondents were not English speakers or not fluent in English. Researchers translated non-English responses to English before submitting their final datasets. Many of the quotations and first-person insights in this document have been translated from their original language.

---

3 Youth who did not complete or only completed primary school.

SECTION 2

DIGGING INTO THE DATA

Our youth researchers asked young people in their communities about six aspects of how they use technology:

ACCESS
How do youth access technology? What barriers stand in their way?

ENTERTAINMENT
How do young people use technology for fun?

WORK AND INCOME GENERATION
How often do youth use technology for work-related activities? How are they using it to find and/or create work?

ENTREPRENEURSHIP
How do young entrepreneurs use technology to build their business and reach customers?

LEARNING
What are young people learning online? How?

LEADERSHIP
How do youth use technology to participate in and contribute to their communities?

The following section provides an overview of our key findings as they relate to access, entertainment, work and income generation, learning, leadership, and entrepreneurship.
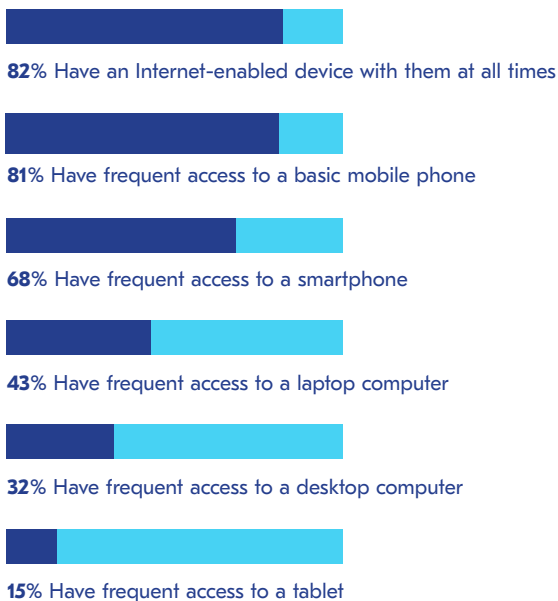
ACCESS

Technology enables socioeconomic development, greater inclusion, innovation, and efficiency.[4] In the digital economy, an increase in Internet adoption is directly correlated with an increase in GDP,[5] and nearly 13 million jobs worldwide are supported by the mobile ecosystem alone.[6] Innovations like the digital payment system m-Pesa, widely available throughout East Africa, have revolutionized banking and have made it easier for traditionally marginalized people in Sub-Saharan Africa to access financial services.[7]

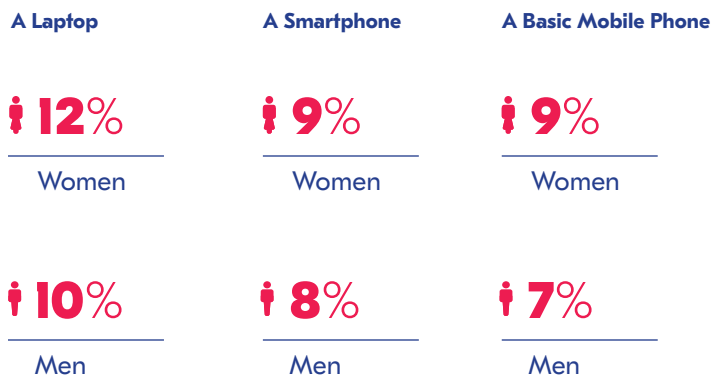The benefits of technology are even greater for young people. They are using technology to find jobs, advance their education, and become entrepreneurs.[8] Youth access to technology is a catalyst for a range of positive socioeconomic outcomes, including civic inclusion, a digitally literate labor force,[9] new employment and entrepreneurship opportunities, strengthening emerging sectors, and reducing youth unemployment.[10]

While access to devices, digital services, and the Internet is not yet universal, young people are among those most likely to use technology. **Youth in developing countries are much more likely to access the Internet than adults — often twice as likely.**[11]
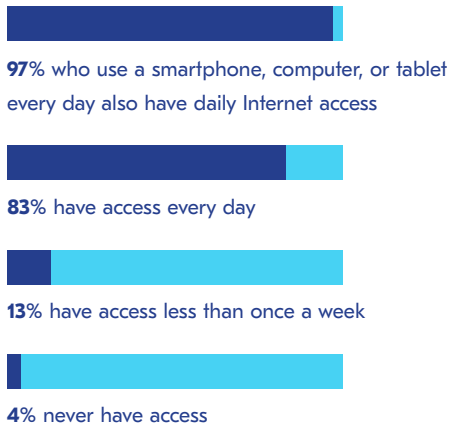
YOUTH ACCESS TO DEVICES ▼

82% Have an Internet-enabled device with them at all times

81% Have frequent access to a basic mobile phone

68% Have frequent access to a smartphone

43% Have frequent access to a laptop computer

32% Have frequent access to a desktop computer

15% Have frequent access to a tablet

NUMBER OF YOUTH WHO NEVER HAVE ACCESS TO... ▼

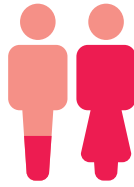| A Laptop	A Smartphone	A Basic Mobile Phone
12% Women	**9**% Women	**9**% Women
10% Men	**8**% Men	**7**% Men

CAFE

Young people who report low access to technology are more likely to use the devices they do have access to at a family member's house, an Internet café, a library, or a community centre.

4 World Bank, "World Development Report: Digital Dividends" (2016) **5** Internet.org, "State of connectivity: A report on global Internet access" (2015) **6** GSMA, "The Mobile Economy" (2015) **7** World Bank, "World Development Report: Digital Dividends" (2016) **8** Caribou Digital, "Digital lives: Lives in Ghana, Kenya, and Uganda" (2015) **9** United Nations Youth, "Youth and ICT Fact Sheet" (2013) **10** International Telecommunication Union, "Digital Opportunities: Innovative ICT Solutions for Youth Employment" (2014) **11** Pew Research Center, "Internet Seen as Positive Influence on Education but Negative on Morality in Emerging and Developing Nations" Pew Research Centers Global Attitudes Project (2015)

ACCESS TO THE INTERNET ▼

97% who use a smartphone, computer, or tablet every day also have daily Internet access

83% have access every day

13% have access less than once a week

4% never have access

YOUTH WHO NEVER HAVE ACCESS TO THE INTERNET ▼

Men: 25%
Women: 75%

Of young people who never have access to the internet, a disproportionate number are women. Cross-cutting barriers like affordability and digital skills significantly affect women, who tend to be less financially independent, have lower levels of education, and lower technical literacy than men.[12] Women are also more likely than men to mention "security and harassment" as a concern regarding their mobile phone ownership and usage.[13]

PERCENTAGE OF YOUTH WITH AT LEAST WEEKLY ACCESS TO THE INTERNET ▶

In each country except Uganda, more than 85% of youth have at least weekly access to the Internet. In Canada, all Indigenous young people we surveyed have access to the Internet.

Country	%
Uganda	**74**%
Kenya	**86**%
Rwanda	**88**%
Tanzania	**89**%
Lebanon	**91**%
Ethiopia	**93**%
Canada	**100**%

ACCESS TO DIGITAL SERVICES AND TOOLS ▶

Text messaging and social media dominate usage. Services such as digital payment systems and tools that support selling products and services online are much less accessible and require a higher level of digital literacy.

83% Can always send text messages

71% Can always access social networks

45% Can always make digital payments

44% Can always use a word processor

42% Can always look for and apply for jobs

20% Can always sell products or services online

12 GSMA, "Consumer Barriers to Mobile Internet Adoption in Africa" (2016) **13** GSMA, "Bridging the Gender Gap: Mobile Access and Usage in Low and Middle-income Countries" (2015)

FIVE BARRIERS TO ACCESS

For youth, five barriers typically stand in the way of their access to technology: affordability, infrastructure, digital skills, locally relevant content, and gender barriers.

These barriers affect women more than men. As a result, **women are less likely to have frequent access to devices, the Internet, and digital services.**

1

AFFORDABILITY
Many young people mentioned the prohibitively high cost of data as the main reason, or an important reason, behind their limited use of the Internet. Low-income youth face extra barriers to accessing digital technology.

2

INFRASTRUCTURE
Mobile and broadband technology is unevenly available in rural and thinly populated areas.[14] As a result, young people in urban areas are more likely to have access to technology than young people in rural areas.

3

DIGITAL SKILLS
The ability to use technology to find, evaluate, create, and communicate information is critical to technology and Internet adoption. Users of technology must understand how to access and apply digital tools in order to realize their benefit. Lack of digital literacy in developing countries is one of the most challenging barriers to Internet adoption, sometimes perceived as a larger hurdle than infrastructure or cost. Digital skills training in Sub-Saharan Africa, for example, is generally only available at higher education levels, where enrollment rates are relatively low.[15]

4

LOCALLY RELEVANT CONTENT
In order to fully take advantage of the digital opportunities offered by the Internet, users must have access to digital content that adds value to their everyday lives by being accessible, interesting, useful, and relevant.[16] This means not only having access to information that is entertaining, but content that is relevant to the local needs and challenges within communities. Such content can comprise local news, social networking opportunities, or information about business, health, and agriculture. It also requires having content available in languages other than English, which currently accounts for 55% of website content, despite the fact that only 5% of the global population speak English as a first language.[17] For example, fewer than 3% of web pages targeting Africans use indigenous African languages,[18] and even though a high number of social media accounts are in Arabic, the Arabic language is poorly represented on websites.[19]

5

GENDER BARRIERS
Each of the barriers listed above have a disproportionate impact on women. Women earn less than men worldwide,[20] have lower levels of digital literacy, and have lower levels of formal education[21] — meaning that barriers like affordability and lack of digital skills can significantly affect women's access to technology. Existing content on the Internet is also highly gendered, with a scarcity of local content tailored to women's interests and concerns, especially in developing countries.[22]

14 International Telecommunication Union, "ICT Data and Statistics" (2015) **15** GSMA, "Consumer Barriers to Mobile Internet Adoption in Africa" (2016) **16** GSMA, "Local World — Content for the Next Wave of Growth" (2014) **17** Ibid **18** Internet Society, "Internet Development and Internet Governance in Africa." (2015) **19** Northwestern University of Qatar, "Media Industries in the Middle East 2016." (2016) **20** World Bank, "World Development Report: Digital Dividends" (2016) **21** GSMA, "Consumer Barriers to Mobile Internet Adoption in Africa" (2016) **22** Intel and Dalberg, "Women and the Web" (2012)

ENTERTAINMENT

We asked youth what technology they use most often for entertainment, and how they use it. More than half of the young people we spoke to said they use electronic devices "very often" to talk to friends, listen to music, and talk to family.

PERCENTAGE OF YOUNG PEOPLE WHO USED THE FOLLOWING SERVICES 'VERY OFTEN' OR 'OFTEN' ▼

◯ = 100%

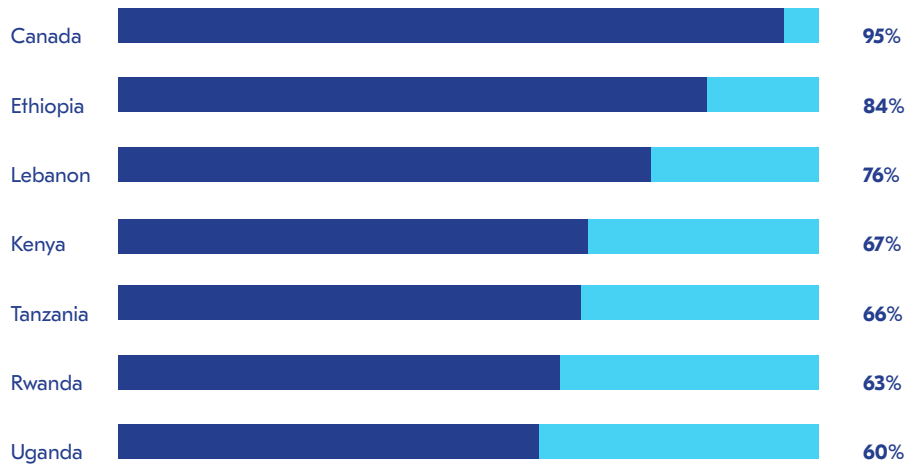| **71%**	**64%**	**35%**	**34%**	**31%**
Facebook	WhatsApp	Viber	Google+	Twitter
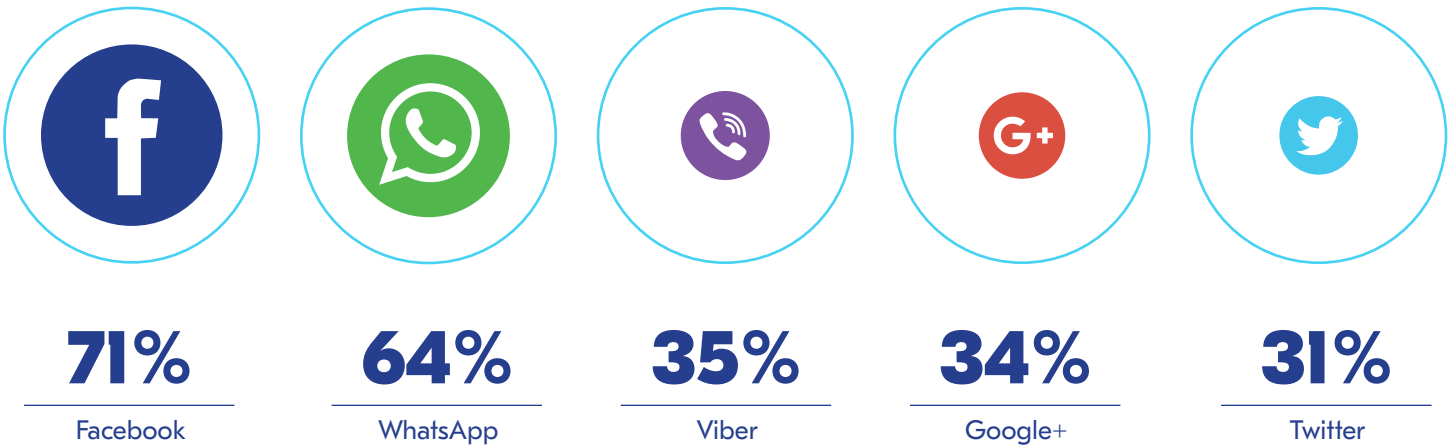
We asked youth about which services they preferred to:

- Connect with friends
- Connect with family
- Connect with online communities
- Share their ideas
- Share their opinions
- Be creative
- Learn

In almost every case, Facebook was by far the most popular. The exceptions were phone calls and WhatsApp, which are popular for connecting with family, and Google, which is the preferred service for learning. Whether connecting with friends, sharing ideas or opinions, or being creative, Facebook is the number one service youth are using across all countries.

YOUTH USING FACEBOOK 'VERY OFTEN' OR 'OFTEN' BY COUNTRY ▶

It is hard to overstate Facebook's popularity. Only 5% of young people had never used the service. In contrast, 18% had never used WhatsApp, the second most popular service.

Country	%
Canada	**95**%
Ethiopia	**84**%
Lebanon	**76**%
Kenya	**67**%
Tanzania	**66**%
Rwanda	**63**%
Uganda	**60**%

Youth who don't use technology for entertainment say it's because:

- Data and Internet access are too expensive for them
- They only have a basic mobile phone
- They only have access to a family member's devices, limiting their access
- They don't know enough about technology to know how it could be used for fun

Young people's use of devices and the Internet for entertainment demonstrates the importance of the network effect. Several young people said they don't use social media services like Viber and Snapchat because their friends don't use them. This also explains part of the appeal of Facebook — everyone's on it.

"My friends don't use social media very much, so I have no reason to either."

— Rwanda, male, age 25-30, urban, self-employed

"Mostly for fun I talk to my friends on social media, read, watch movies, and listen to music. It takes too long to go see people in person because traffic is so bad here, so chatting on Facebook is usually easier!"
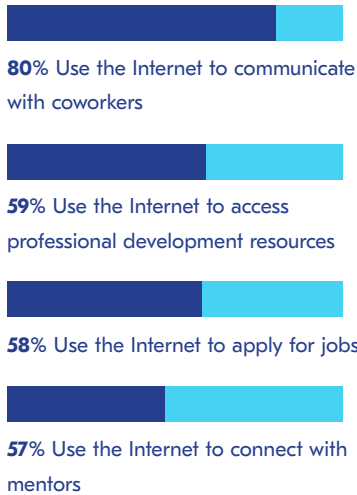
— Kenya, female, age 20-24, urban, unemployed

WORK AND INCOME

Technology can improve the working lives of youth by creating jobs (such as web development, programming, and selling goods and services to new markets) and by making it easier for youth to find job opportunities. It can also have an impact on how they do their work on a day-to-day basis.

INTERNET AT WORK ▼

80% Use the Internet to communicate with coworkers

59% Use the Internet to access professional development resources

58% Use the Internet to apply for jobs

57% Use the Internet to connect with mentors

DEVICE USE FOR WORK ACTIVITIES ▼

80% Send text messages for work

72% Do word processing

67% Use devices for scheduling

51% Manage budgets with devices

34% Keep track of how many hours they work

Youth show a great deal of creativity in using devices and the Internet to earn money. Some find work opportunities online, or use the Internet to promote their business online.

Young people are most likely to perform the following types of online work:

- Data entry
- Online freelance writing
- Web or graphic design
- Selling products online
- Downloading media and selling it

"I offer website design services, although because I am self-taught I find it hard to keep up with my competitors."

— Rwanda, male, age 20-24, urban, self-employed

"Before getting a permanent job, I used my laptop for data entry because most data entry jobs require people to own a laptop. Sometimes I loaned my laptop to a friend so that they could do data entry too."

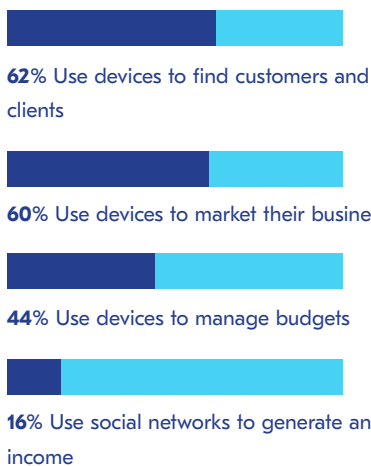— Rwanda, female, age 25-30, peri-urban, employed

ENTREPRENEURSHIP

The increasing affordability and accessibility of digital tools has meant that even greater numbers of young people are applying their creative energies to becoming entrepreneurs. Many governments have enacted policies encouraging graduates to become job creators, and there are a growing number of services, resources, courses, and interventions for young people who want to explore entrepreneurship as a livelihood option.[23]
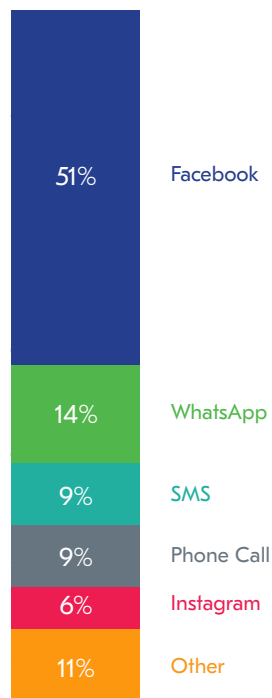
However, many young people who use the Internet and digital services as entrepreneurs to build a business, reach customers, take orders, and make payments do so as a part of the informal economy — through ventures that are not officially registered as businesses in their countries. The emergence of digital payment systems like m-Pesa have made generating an informal income in this way accessible to any young person with a smartphone and goods or services to offer.

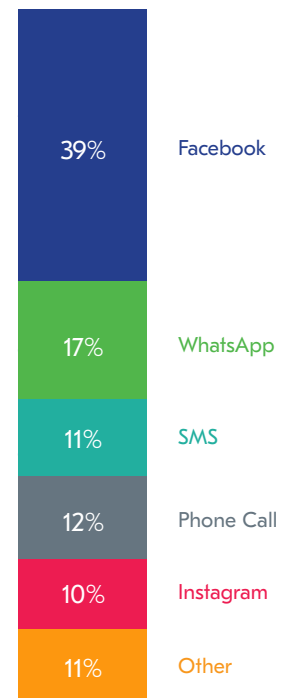## OF YOUTH WHO USE DEVICES FOR ENTREPRENEURSHIP ▼

62% Use devices to find customers and clients

60% Use devices to market their business

44% Use devices to manage budgets

16% Use social networks to generate an income

FAVOURITE DIGITAL TOOLS FOR... ▼

Marketing or promoting your entrepreneurial venture

%	Tool
51%	Facebook
14%	WhatsApp
9%	SMS
9%	Phone Call
6%	Instagram
11%	Other

Selling or buying goods

%	Tool
39%	Facebook
17%	WhatsApp
11%	SMS
12%	Phone Call
10%	Instagram
11%	Other

---

23 International Telecommunication Union, "Digital Opportunities: Innovative ICT solutions for youth employment." (2014)

Youth with informal-economy ventures are extending their businesses into the digital sphere using social media. Young people are using tools like Facebook and Instagram to set up virtual storefronts, take orders, and extend their networks.

Specific ways they discussed using technology in their entrepreneurial ventures included:

- WhatsApp to take orders from clients
- Facebook to post online advertisements for products
- SMS to contact clients and market products
- Email to send invoices and get in touch with customers
- LinkedIn to connect to entrepreneurs and learn from their businesses
- Mobile money service to complete customer transactions

Notably, our research found that women are less likely to use social networks for entrepreneurship or to generate an income.

7%
_____

Of the almost 100 young people we spoke to who reported using social networks to generate an income, only 7% were women.
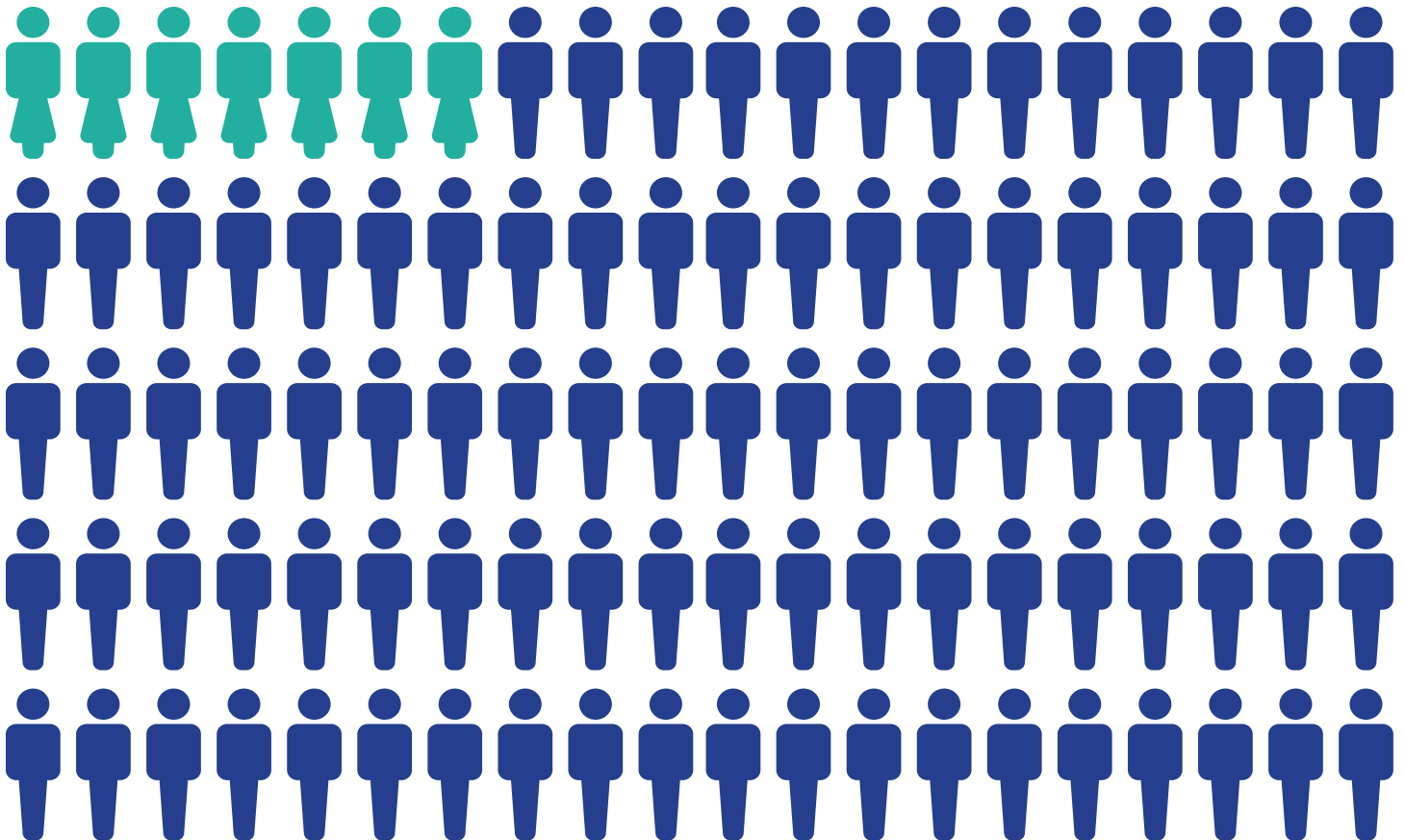
"I generate an income by advertising my products on social media and selling them by using m-Pesa. I put my mobile number in the advert so people can transfer money to me, and then I deliver the item."

— Tanzania, male, age 25-30, urban, self-employed

"Even though I am employed at an office, I make clothes and jewelry as well. I take pictures and videos of the things I make and post them to Facebook, Instagram, and some WhatsApp groups. Then people who are interested message me."

— Kenya, female, age 20-24, urban, employed

"In the [refugee] camp, most people who officially buy and sell goods are the older generation like my parents. But I help my father in his shop by posting things on WhatsApp and taking orders there. I myself buy things that my friends post to social media. Recently I bought shoes from someone who sells things on Facebook."

— Lebanon, female, age 20-24, refugee camp, unemployed

LEARNING

Technology has opened new avenues for learning. Students can take courses from universities, learn about any topic through Wikipedia, find specialized services with information for their studies and employment, and more.

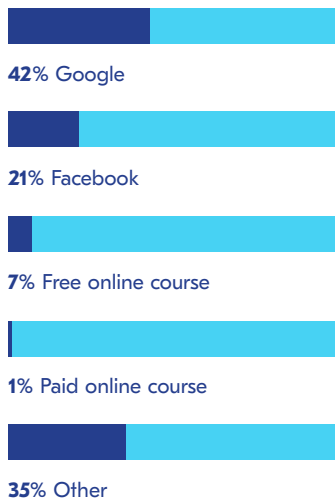~~~~~~

While the majority of young people haven't taken an online course, those who have participated in online learning said that they would repeat the experience. However, they raised a number of concerns, including:

- Lack of interactivity with both instructors and peers
- The high cost of some courses
- Language barriers
- Large documents for download, video tutorials, and other data-rich content which made courses expensive because of the high cost of data

On the other hand, youth appreciate the following about online courses:

- The flexible schedule, which lets students attend courses whenever convenient and learn at their own pace
- The opportunity to interact with students from other countries and backgrounds
- Courses are free or cheaper than formal education
- Interesting and varied learning content is available online
- Whether taking an online course or Googling information, the majority of young people report that they are learning online in some way. Google is the most popular tool for online learning, whereas online courses, LinkedIn, and podcasts, were the least popular.

PERCENTAGE OF YOUNG PEOPLE WHO FREQUENTLY USE THE FOLLOWING SERVICES FOR LEARNING ▼

42% Google

21% Facebook

7% Free online course

1% Paid online course

35% Other

Of those who have never used the Internet for learning, a slight majority (54%) were women. Most (65%) were from Uganda, where many youth have infrequent access to the Internet.

While online learning has great potential, our research shows that it is far from fully realized as an alternative to traditional education. Improved Internet infrastructure, affordability, multilingual content, payment systems, and other changes need to take place before online learning can effectively become a transformational tool to close the education gap.

"Even if online learning is free, it's still too expensive as it consumed a lot of data due to all of the downloads involved, and the many videos."

— Uganda, female, age 20-24, urban, university graduate, unemployed

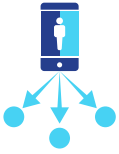"The biggest challenge was language. I had difficulty understanding the instructor as he spoke only English."

— Tanzania, male, age 25-30, urban, university graduate, microenterprise owner

"The hardest part about online learning is the lack of a good Internet connection, as it keeps dropping in my community."

— Lebanon, female, age 25-30, rural, primary school graduate, employed

"I was able to meet new people and expand my network of people, and I liked that I could learn on my own time."

— Indigenous Canada, female, age 25-30, urban, university graduate, employed

LEADERSHIP

From creating Facebook Pages about the environment to sharing news about other countries, technology provides youth many opportunities to act as leaders and change-makers in their communities and peer groups. Young people exhibit a good understanding of the ways technology can be used to raise awareness, share information, and influence others.

USING TECHNOLOGY FOR LEADERSHIP ▼

Following the news

77% Use the Internet to learn what is happening in their country

71% Use the Internet to learn what is happening in their community

70% Use the Internet to learn what is happening internationally

Connecting and sharing ideas

76% Use the Internet to share their ideas

61% Use the Internet to participate in online discussions

61% Use the Internet to connect with like-minded individuals

Change-making and influence

52% Use the Internet to learn about change-making initiatives

30% Use the Internet to raise awareness for a cause

24% Use the Internet to engage with community leaders

Most young people use the Internet to learn about what is happening in their community, country and internationally, and to connect and share their ideas with others. However, fewer youth use the Internet for more active leadership, such as participating in change-making initiatives, engaging with leaders and politicians, or raising money or awareness for a cause.

IN WHAT WAYS DO DIGITAL TOOLS HELP YOU ACT AS A LEADER IN YOUR COMMUNITY?

"For me, leadership means sharing my ideas and opinions, learning about what is happening in my country and in the world, and learning from people with different opinions. I can do all of that with social media."

— Uganda, male, age 20-24, rural, university graduate, employed

"The Internet helps me as a role model, because I can speak out about what I believe in."

— Indigenous Canada, female, 16-19, urban, university student, unemployed

"When people in my community ask me questions, I can quickly access the answers. People already know that I understand how to use technology, and I can use that knowledge to help them and offer solutions to problems."
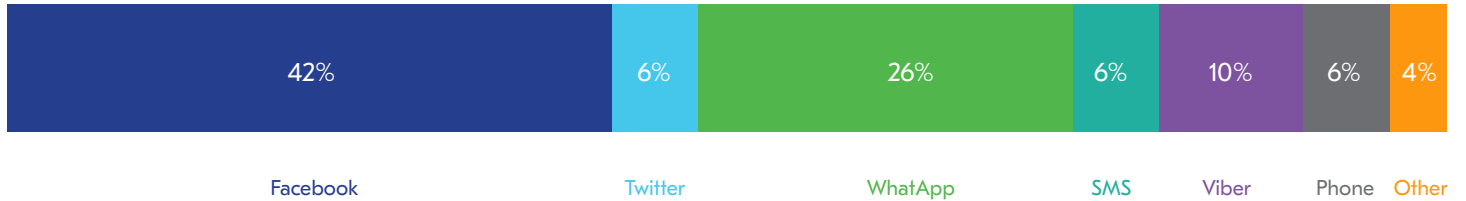
— Lebanon, femaile, age 25-30, rural, primary school graduate, unemployed

"I've created Facebook pages about topics I am interested in, like environmental issues, and I can start spreading awareness and get hashtags going on Twitter."

— Lebanon, female, age 25-30, rural, primary school graduate, unemployed

FAVOURITE SERVICE OR TOOL FOR… ▼

Getting news out to friends

42%	6%	26%	6%	10%	6%	4%
Facebook	Twitter	WhatApp	SMS	Viber	Phone	Other

Sharing your ideas

57%	14%	9%	5%	5%	10%
Facebook	Twitter	WhatApp	SMS	LinkedIn	Other

Raising awareness for a cause

50%	16%	5%	12%	9%	8%
Facebook	Twitter	WhatApp	SMS	LinkedIn	Other

Facebook is the most popular tool used for leadership purposes. Young people use it to share news, influence other people, raise money for causes, and more.

As one young person in Lebanon explained, "I think Facebook is the best digital service in our age that can be used for leadership purposes. People can form groups and communities of the same interest, share ideas and opinions and especially raise awareness by posting videos and articles about corruption and political scandals in the country so that the information becomes available to everyone for free. Especially because sometimes we don't get the entire truth from local media."

Most young people desire to engage with the world, contribute to the welfare of others, and shape their communities for the better.[24] Technology helps young people achieve these goals, making it easier for them to become leaders and change-makers.

24 Aga Khan University, East Africa Institute, "East Africa Youth Survey 2015." (2015) http://data.eadialogueseries.org/

SECTION 3

THE FOUR TYPES OF TECHNOLOGY USERS

THE FOUR TYPES OF TECHNOLOGY USERS

Young people all over the world are natural adopters of technology. As we have seen, they use technology for everything from entertainment, to generating income, to learning — but because of differences in access, geography, income, education, and gender, they use technology in many different ways.

Through the course of our research and analysis, patterns emerged as to how youth use technology. We identified four types of young technology users, each using technology in a distinct way.

The Infrequent Technology User

Youth with infrequent access to the Internet; often in a rural environment.

The Connected User

Youth who access the Internet on their smartphones every day; often in urban areas.

The Entrepreneurial User

Youth who regularly use technology to support an entrepreneurial venture, through marketing, advertising and engaging with customers.
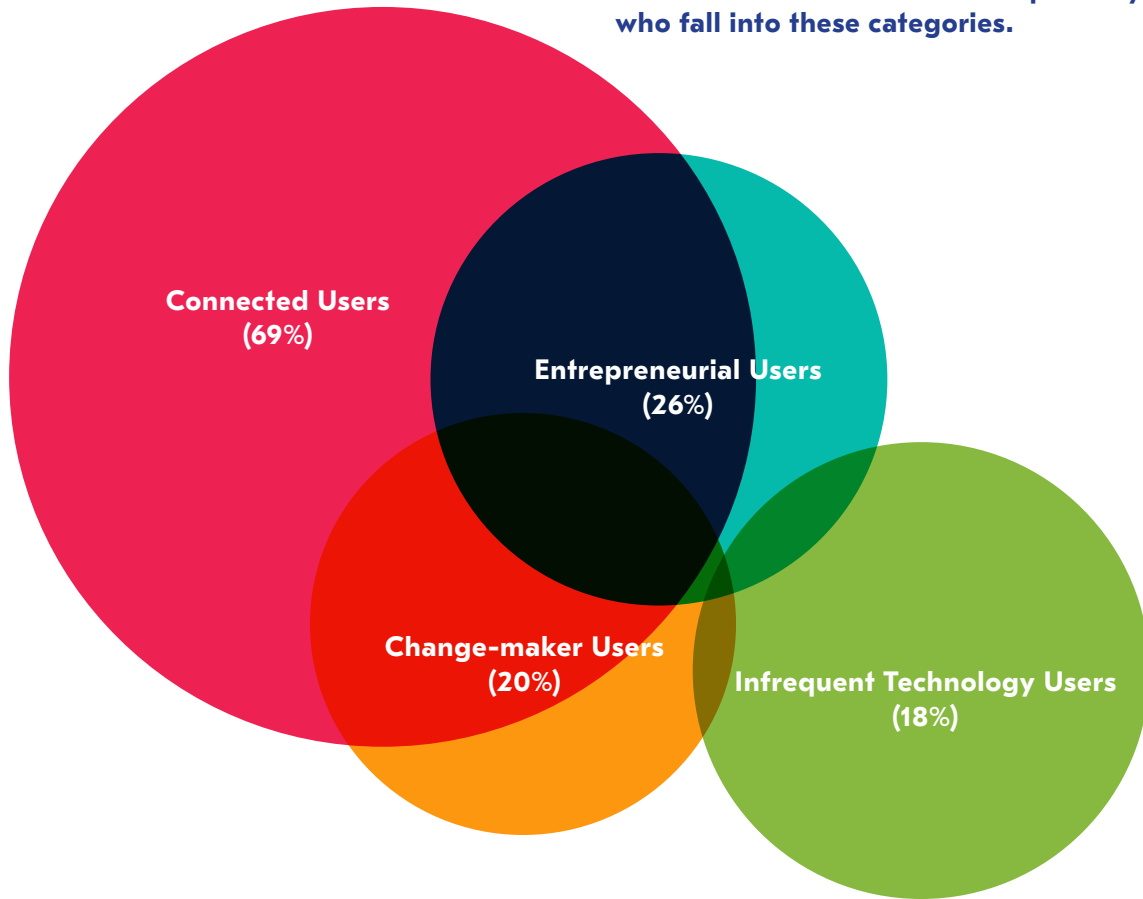
The Change-maker User

Youth who use technology to connect to the world, inform themselves about social issues, and lead change-making initiatives in their communities.

The Infrequent Technology User and the Connected User are defined by how often they access the Internet, while the Entrepreneurial User and the Change-maker User are defined by the way they use digital services.

These four types are not mutually exclusive. For example, an Entrepreneurial User is likely to also be a Connected User, as can be seen in the diagram below.

In this section, we provide some additional detail about these four user types, and share the stories behind the statistics: real examples of young people who fall into these categories.

Connected Users (69%)

Entrepreneurial Users (26%)

Change-maker Users (20%)

Infrequent Technology Users (18%)

The table below shows the number of users who overlap user types. We see that many Connected Users are also Entrepreneurial and Change-maker Users, while few Infrequent Technology Users are Entrepreneurial Users or Change-maker Users.

In other words, limited access to the Internet has a significant impact on how youth use digital services, and whether they use them for entrepreneurial or change-making activities.

PERCENTAGE OF YOUNG PEOPLE IN OVERLAPPING TECHNOLOGY USER TYPE CATEGORIES ▼

	Infrequent Technology Users	Connected Users
Entrepreneurial Users	2%	20%
Change-maker Users	1%	17%

THE INFREQUENT TECHNOLOGY USER

The Infrequent Technology User is a young person who doesn't access the Internet on a daily basis. Because of the low rate of access in many of the countries where we conducted our research, 18% of the young people who spoke to our researchers are considered Infrequent Technology Users.

18%

of the youth we spoke to are Infrequent Technology Users.

Infrequent Technology Users face many barriers to access, including affordability, language, and skills. They usually only have regular access to basic mobile phones, and if they do have smartphones, they don't use them to their full potential.

We encountered the most Infrequent Technology Users in rural Rwanda and Uganda, though as our examples show, there are Infrequent Technology Users among all the youth our researchers spoke to, with the exception of Indigenous youth in Canada.

MEET THE TYPICAL INFREQUENT USER

Does not access the Internet on a daily basis

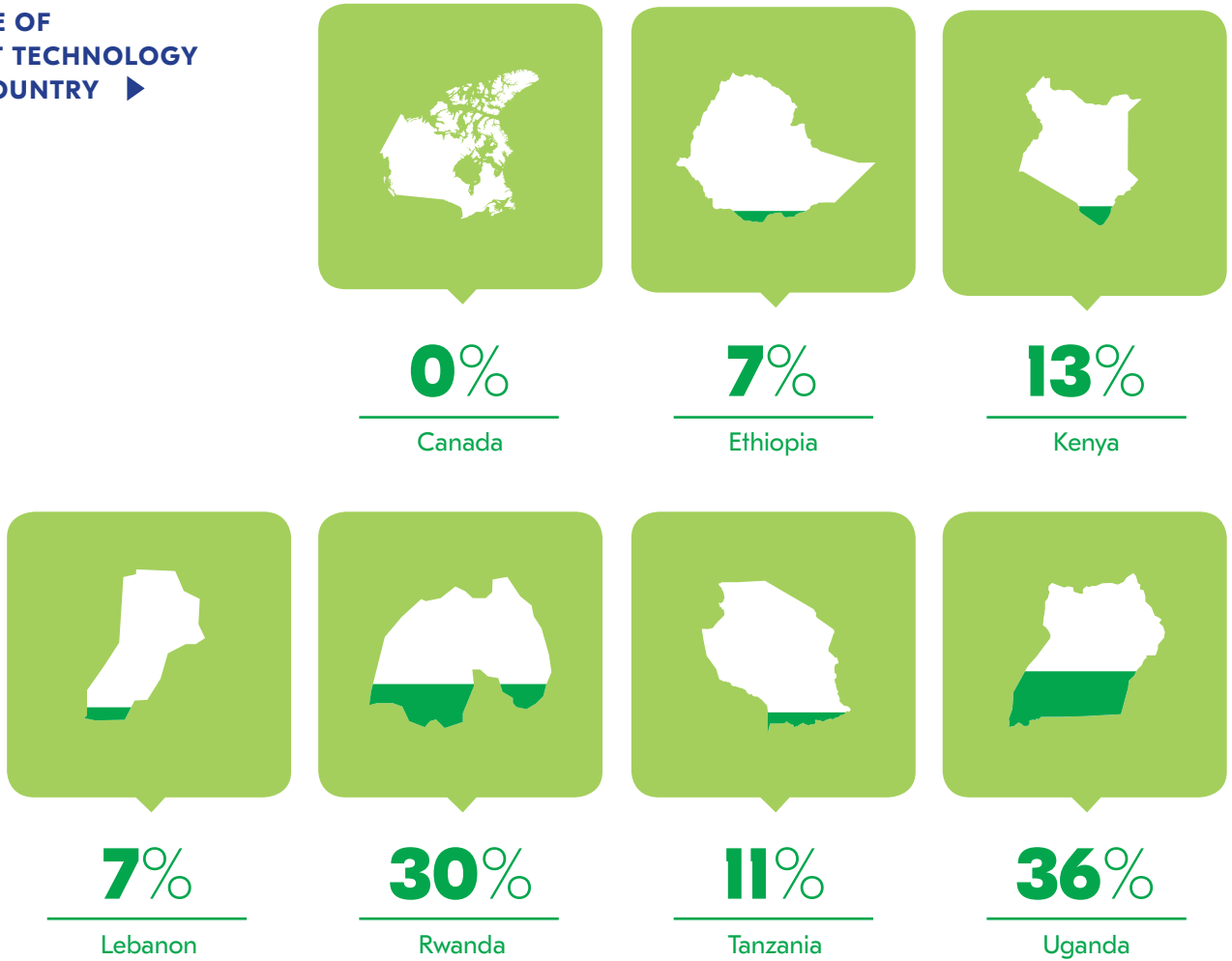Accesses the Internet on devices they do not own

Uses the Internet for practical tasks like sending and receiving emails rather than for entertainment
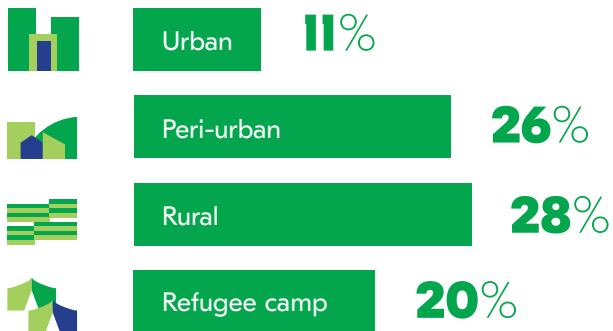
Twice as likely to live in a rural or peri-urban area

WHERE INFREQUENT TECHNOLOGY USERS LIVE

PERCENTAGE OF INFREQUENT TECHNOLOGY USERS BY COUNTRY ▶

0%
Canada

7%
Ethiopia

13%
Kenya

7%
Lebanon

30%
Rwanda

11%
Tanzania

36%
Uganda

PERCENTAGE OF INFREQUENT TECHNOLOGY USERS BY REGION ▼

Urban **11**%

Peri-urban **26**%

Rural **28**%

Refugee camp **20**%

THE INFREQUENT TECHNOLOGY USER

THE STORIES
BEHIND THE
STATS

A woman upgrading her skills at a community college in rural Uganda. A man studying in urban Tanzania. Here are two real examples of young people in the Infrequent Technology User category.

AN UNEMPLOYED UGANDAN WOMAN LEARNS HOW TO USE WORD AND EXCEL

**UGANDA, FEMALE, AGE 20-24, RURAL,
SECONDARY SCHOOL EDUCATION, UNEMPLOYED**

A Ugandan woman who spoke to DOT researchers is a typical Infrequent Technology User. Living in rural Uganda, she completed secondary school but is currently unemployed. To improve her job prospects, she is taking vocational training to become a caterer. She uses her simple mobile phone — which cannot connect to the Internet — to call and text friends and family, and sometimes to take photos or videos.

Her catering program includes computer classes. Once a week, she goes to the local community centre to learn how to type, create budgets in Excel, and design menus and create documents in Word.

Her mobile phone, and these classes, are her only interaction with technology. She has no social media profiles and has never used the Internet. Her work experience has always involved keeping paper records.

This young Ugandan woman has weekly access to a computer but has never used the Internet. Women in developing countries are the least likely to use the Internet, and as recently as 2013, there were an estimated 200 million more men online than women.[25]

25 The State of Broadband 2015: Broadband as a Foundation for Sustainable Development. Rep. Broadband Commission, n.d. Web. 11 Aug. 2016

A TANZANIAN STUDENT USES A COMPUTER TO COMPLETE SCHOOL ASSIGNMENTS

TANZANIA, MALE, AGE 25-30, URBAN, VOCATIONAL COLLEGE STUDENT

Another Infrequent Technology User is a student living in urban Tanzania. Like the Ugandan woman, he has a basic mobile phone he uses to text and talk to family and friends.

To access a computer or other Internet-enabled device, he has to go to a family member's house, a community centre, or an Internet café. He prefers to go to Internet cafes as often as every few days, but some months he can't afford the expense. When short on money, he reduces his Internet café use to less than once a month.

When he has access to a laptop, he watches movies and completes school assignments. When he has access to the Internet, he uses it to read about topics of interest, play games, look for and apply for jobs, and check his university results. Sometimes he submits university assignments online, but he doesn't have any social media profiles or use social media.

While this Tanzanian student's Internet access is sporadic and infrequent, the fact he has access to the Internet at all is notable. Fewer than 5% of Tanzanians used the Internet in 2015.[24]

Cost is the main barrier to him being able to access technology and the Internet on a regular basis.

"I can't access technology and digital services because of my low income level. Technology needs a person to have a high income to sustain it."

CAFE

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24 International Telecommunication Union, "ICT Development Index 2015" (2015)

INSIGHT ABOUT INFREQUENT
TECHNOLOGY USERS ▼

As the Ugandan woman and the Tanzanian student show, the Infrequent Technology User is not completely disconnected from technology. In fact, only 4% of our youth respondents said they never had access to Internet. Rather, Infrequent Technology Users only have access to the Internet on a device that is not theirs, such as a school computer, a friend's smartphone, or a desktop at the local Internet café.

Because they don't often have access to the Internet, Infrequent Technology Users are practical users. Rather than using social media, listening to music or watching videos, they use technology for practical purposes like sending and receiving emails. Only 17% of Infrequent Technology Users watch videos online often or very often, compared to nearly 70% of Connected Users.

Their infrequent access puts many uses of technology out of their reach. They may not know they can shop online, promote their business through social media, or find online work like data entry and freelance writing. Even if they know such options are out there, it is still hard for them to access technology often enough to engage in these activities.

While income levels were not assessed as part of our research, it is likely many Infrequent Technology Users have low incomes. As the Tanzanian student explained, access to technology and digital services can be expensive and inaccessible for youth who struggle to make ends meet.

THE
CONNECTED
USER

Picture a young person sharing photos on Instagram and chatting with her friends on WhatsApp. That person is the Connected User. Connected Users are constantly online, taking their Internet-enabled mobile phone with them everywhere they go.
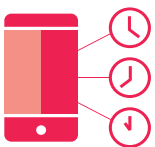
69%

of the youth we spoke to are Connected Users.

This confirms what research shows: young people are much more likely to be online than older people, even in countries and regions with barriers to access. For example, in Lebanon, 94% of youth aged 18 to 34 had some access to the Internet, compared to 62% of the general population.[27]

The Connected Users we surveyed use technology in the same ways as young people in many parts of the world: to connect with friends and family, for fun and entertainment, and to follow what is happening in their communities, countries, and internationally.

MEET THE TYPICAL CONNECTED USER

Uses a smartphone they own to access the Internet many times a day

Has access to a laptop at least once a day

Loves to use social media, watch videos online, and connect with friends and family
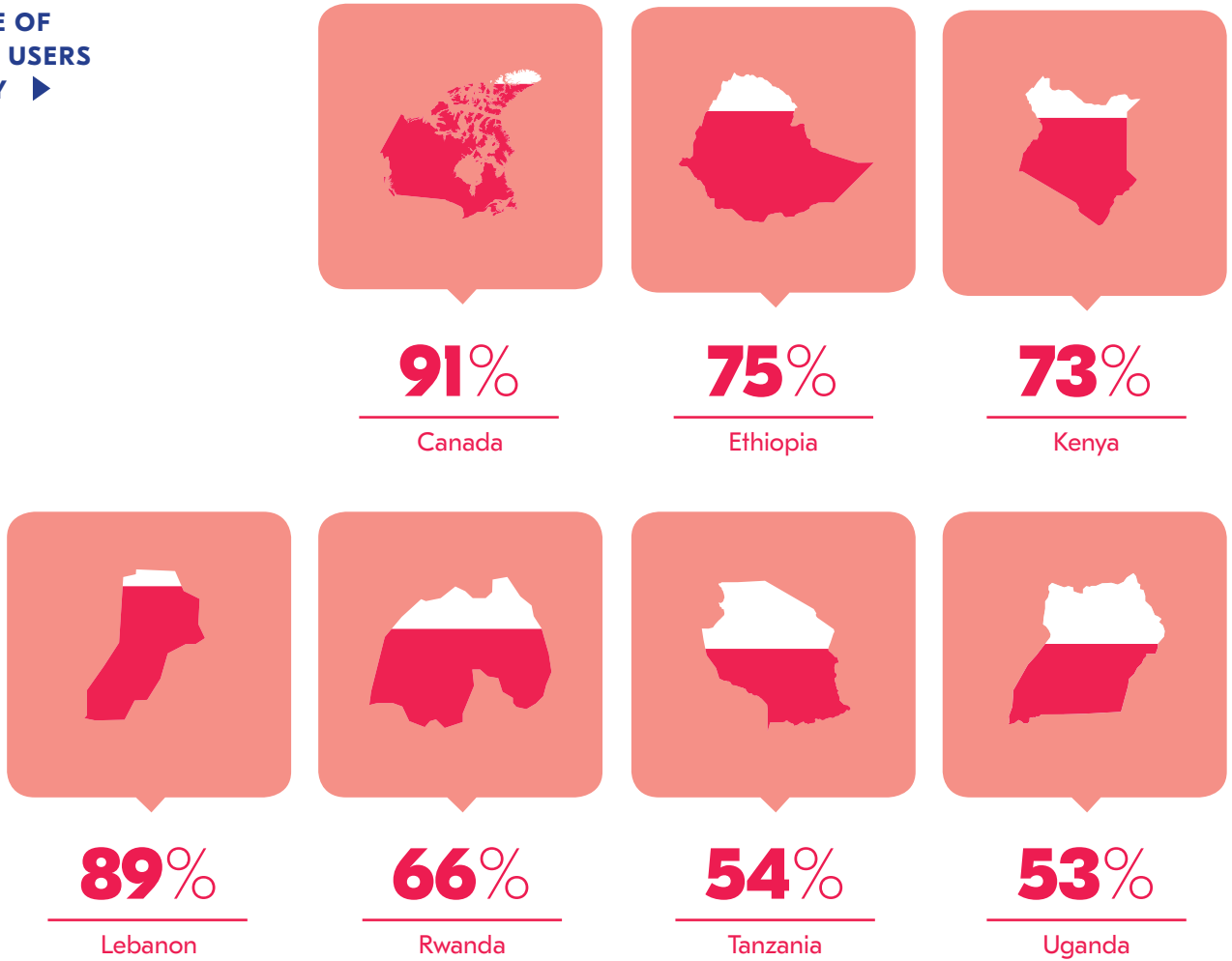
Lives in an urban area

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27 Pew Research Center, "Internet Seen as Positive Influence on Education but Negative on Morality in Emerging and Developing Nations" (2015)

WHERE CONNECTED USERS LIVE

PERCENTAGE OF CONNECTED USERS BY COUNTRY ▶

91%
Canada

75%
Ethiopia

73%
Kenya

89%
Lebanon

66%
Rwanda

54%
Tanzania

53%
Uganda

PERCENTAGE OF CONNECTED USERS BY REGION ▼

Urban **74**%

Peri-urban **64**%

Rural **59**%

Refugee camp **50**%

THE CONNECTED USER

THE STORIES BEHIND THE STATS

A Rwandan graduate scrolls through news on health and wellness and chats with her friends. A Kenyan student carefully considers what he puts online before he posts. Here are two real examples of young people in the Connected User category.

A RWANDAN GRADUATE KEEPS UP WITH LIFESTYLE TOPICS

RWANDA, FEMALE, AGE 20-24, URBAN, UNIVERSITY GRADUATE, UNEMPLOYED

Facebook. WhatsApp. YouTube. This unemployed university graduate in urban Rwanda uses these and many other digital services. Her smartphone is with her at all times, so she can take photos, access banking services, and follow the news wherever she goes. When at home, she uses her laptop. She likes to Google topics she is interested in, such as design, health, and wellness.

Her friends and family are at the center of her digital life. When she has news or something interesting to share, she sends it to family and friends with WhatsApp. They also talk often on Facebook. Every once in a while, she creates her own music on her smartphone and uploads it to YouTube, taking pride in sharing her creativity with others.

While she knows many Rwandan politicians are active on Twitter, making it a good way to follow Rwandan politics, she herself isn't on Twitter. In fact, she rarely uses the Internet to keep on top of what's going on in Rwanda or in the world.

Though she is unemployed, she sometimes sells products online and does casual work. Her friends send her work opportunities to her phone.

She dreams of starting a business soon, and knows technology can make it easier.

"People are starting to use electronic payment methods and even pay online. This is very good, but few entrepreneurs are aware of its possibilities."

A KENYAN STUDENT NAVIGATES COMPLEXITIES OF ONLINE LIFE

KENYA, MALE, AGE 20-24, URBAN, COLLEGE STUDENT

Just for fun, this college student in urban Kenya once made a video with a friend. They posted it on YouTube.

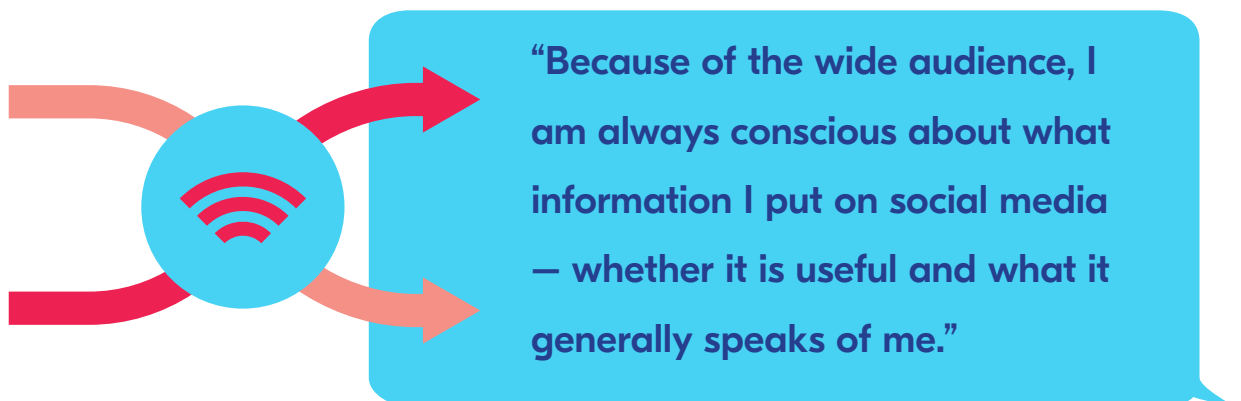"Later, we got a call to do a video shoot for a wedding," he says.

This is a Connected User who is always consuming and making content online. He always has his smartphone with him and uses it most often to take photos and videos, make digital payments, access political news, and share his opinions online. He also writes articles on topics he cares about, such as the environment. He once took an online course, which he liked because it was cheaper than a traditional course and let him interact with people from all over the world.

His favourite social media services have their own distinct uses. WhatsApp is for connecting with friends,

Facebook is for sharing opinions and ideas, and Twitter is for connecting with online communities. He does not consider himself an entrepreneur but uses technology to earn a bit of money. He sometimes does graphic design work as a side job while he studies, and he sells personal items online.

He uses his laptop for graphic design work, and also likes to use it to watch movies and listen to music. Though he has a phone and laptop, once every few weeks he goes to an Internet café to make use of their printers and scanners.

The Internet is an important way for him to learn about what is happening in Kenya and internationally. He enjoys participating in online debates, and sometimes engages with leaders and politicians online, mostly on Facebook and Twitter. Yet he thinks carefully about what he shares online, and how it reflects on him.
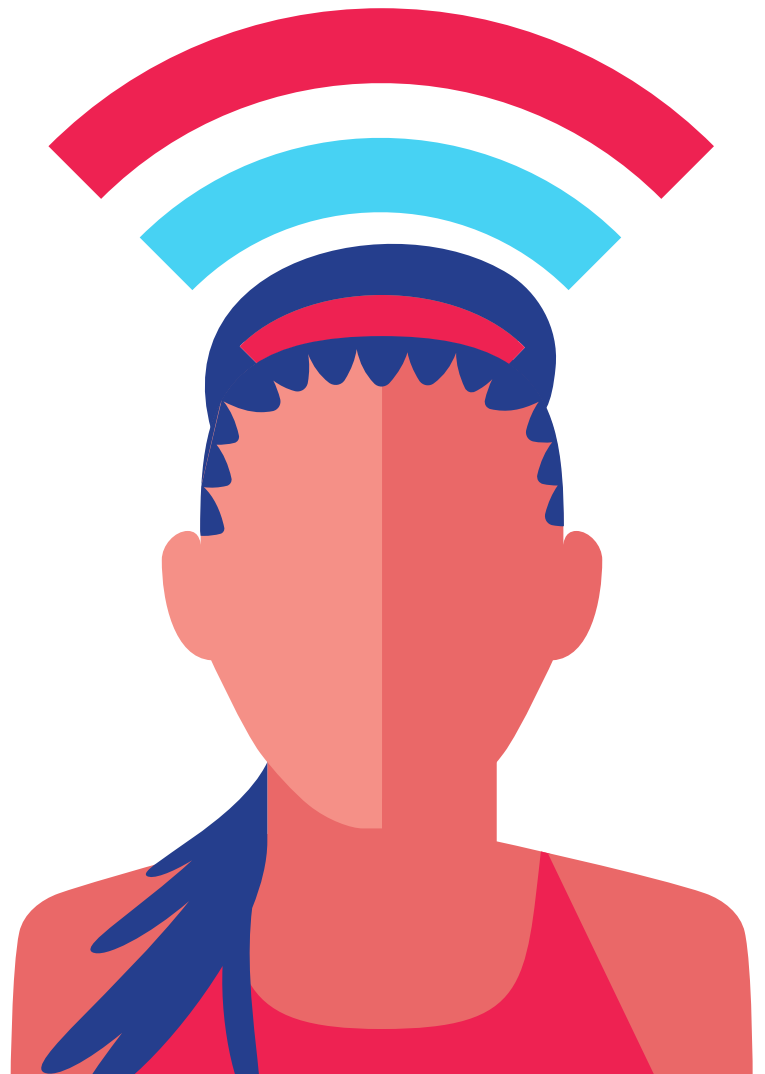
"Because of the wide audience, I am always conscious about what information I put on social media — whether it is useful and what it generally speaks of me."

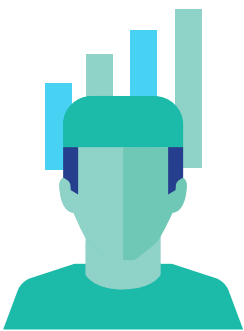## INSIGHT ABOUT CONNECTED
TECHNOLOGY USERS ▼

The Rwandan graduate and Kenyan student embody typical Connected Users: for them, technology has become an indispensable tool to communicate with others, learn about topics they are interested in, and entertain themselves.

Connected Users access the Internet multiple times a day on their smartphone, and most of them (63%) also have access to a laptop at least once a day. They are savvy users, aware of the many communication apps, learning platforms, payment services, and shopping sites available to them.

While income levels were not assessed as part of our survey, it is likely most Connected Users are middle class or high-income, particularly in Sub-Saharan Africa, where smartphones and Internet are comparatively more expensive than in the other places we surveyed, Lebanon and Canada. As technology and Internet access become more affordable, the number of Connected Users will grow.
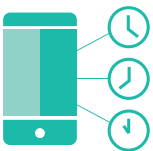
THE ENTREPRENEURIAL USER

As part of our research, we asked youth about 12 different types of entrepreneurial activities.[28] 26% of youth use the Internet for at least five entrepreneurial activities. This makes them Entrepreneurial Users.

26%

of the youth we spoke to are Entrepreneurial Users.

MEET THE TYPICAL ENTREPRENEURIAL USER

The Entrepreneurial User is often a Connected User with a business twist. One-third of Connected Users are also Entrepreneurial Users. Only a small minority (10%) of Infrequent Technology Users are also Entrepreneurial Users, using their limited access to technology and devices to reach customers and build their business.

Uses the smartphone they own to access the Internet many times a day

Uses the Internet to market their business, sell and buy goods, and make payments
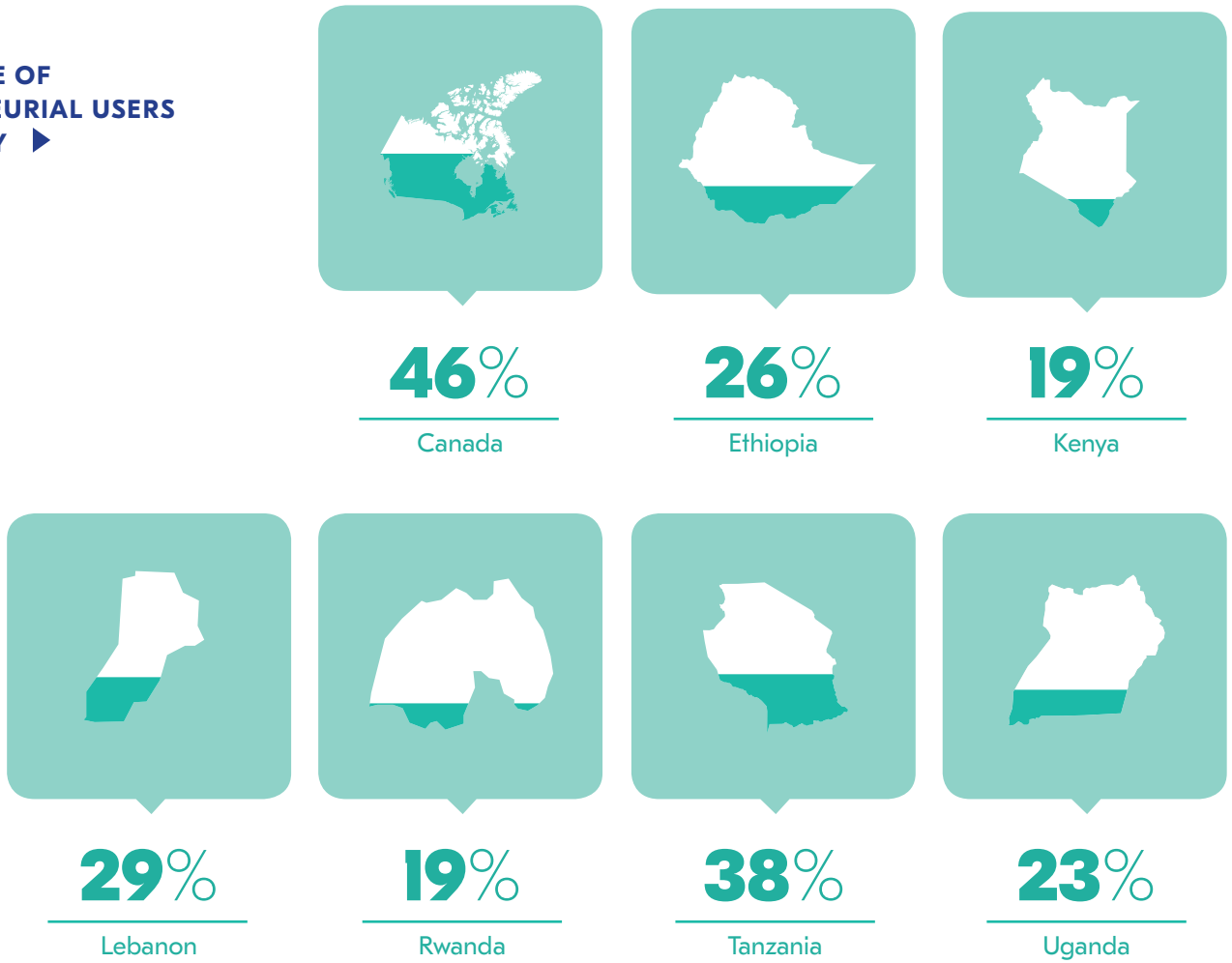
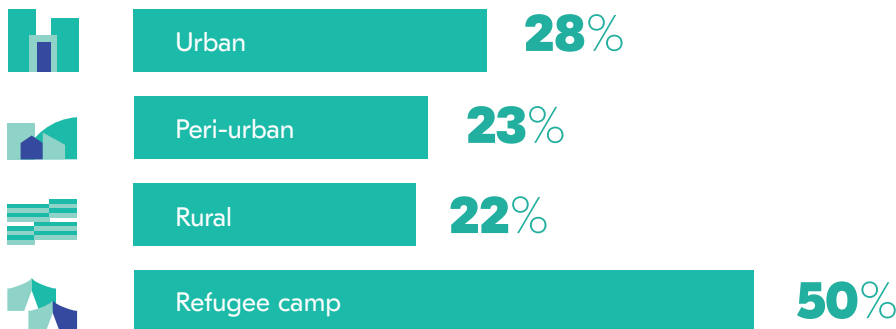Often university-educated

Lives in an urban area

[28] Youth were asked how often they use electronic devices for the following entrepreneurial activities: word processing; budgets; business communication; task management; project planning; scheduling, tracking work hours; tracking income; finding customers or clients; marketing their business; tracking profits and losses; and storing files.

WHERE ENTREPRENEURIAL USERS LIVE

PERCENTAGE OF ENTREPRENEURIAL USERS BY COUNTRY ▶

46%
Canada

26%
Ethiopia

19%
Kenya

29%
Lebanon

19%
Rwanda

38%
Tanzania

23%
Uganda

PERCENTAGE OF ENTREPRENEURIAL USERS BY REGION ▼

Region	Percentage
Urban	**28**%
Peri-urban	**23**%
Rural	**22**%
Refugee camp	**50**%

THE ENTREPRENEURIAL USER

THE STORIES BEHIND THE STATS

A member of an Ethiopian cooperative uses technology to explore demand for her co-op's services. An Indigenous youth in Canada sells his music online and researches business models for music industry entrepreneurs. Here are two real examples of young people in the Entrepreneurial User category.

AN ETHIOPIAN COOPERATIVE MEMBER USES TECHNOLOGY TO BUILD HER BUSINESS

ETHIOPIA, FEMALE, AGE 25-30, URBAN, UNIVERSITY GRADUATE

In urban Ethiopia, a university graduate uses technology creatively for activities related to her cooperative. She advertises the co-op. She processes payments. She budgets. She does work-related research. She communicates with her coworkers.

Many of the ways she uses technology are focused on growing her business. For example, she uses technology to explore demand for her co-op's services. According to her, the best services for connecting with customers are Facebook and email. She also uses WhatsApp and radio advertisements for promotion.

The impact of technology on her life extends from business to pleasure. Like the Connected User, she connects with friends on social media — Facebook and Twitter are her favourites — and takes photos and videos with her phone. She also enjoys reading ebooks, writing, and making music and videos.

There's a digital component to virtually every aspect of her life. Civic-minded, she uses the Internet to learn about what is happening in her community, in Ethiopia, and around the world. She is also active in online forums, such as TemariNet, an Amharic-language discussion forum for youth, where she shares her opinions and ideas. She uses these forums to learn about change-making initiatives and start her own initiatives to make her community better.

Given the importance of technology in both her work and personal life, she accesses a smartphone, tablet, and laptop multiple times a day. Neither her business nor her life would be quite the same without the many conveniences technology offers her. She also appreciates how it lets her stay plugged in to her community.

> "Technology helps me take an active interest in my community because I can get every single bit of information about my community, which helps me stay tuned-in and interested in my local community."

TECHNOLOGY FUELS
THE MUSICAL AMBITIONS
OF AN INDIGENOUS
YOUTH IN CANADA

**CANADA, MALE, AGE 25-30, URBAN,
UNIVERSITY GRADUATE, SELF-EMPLOYED**

An Indigenous musician living in urban Canada uses technology to further his music career. Whether turning to YouTube or Wikipedia for self-guided learning about the music industry, or sharing his music on SoundCloud, this musician sees technology as vital to his music career.

He sells his own music online, and researches business models for music industry entrepreneurs and creators. To manage his personal website, Facebook, and YouTube in support of his entrepreneurial ventures, he is online multiple times a day. His smartphone is always on him, and he also uses a tablet and a laptop.

He has big dreams, and he's using technology to realize them. "I have a goal to reach a national audience," he says, "but I'm not there yet." He
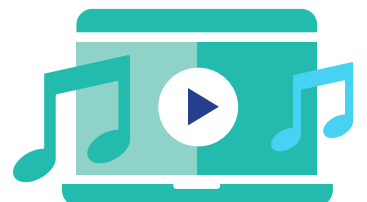
strategically uses social media to position himself as an expert in his field, and often connects with mentors and others online.

He is comfortable using technology to facilitate money transfers with customers, and also goes online to raise money and awareness for causes important to him.

When not using technology to support his music, he uses it to talk to friends and family, take photos, download music and videos, and share his ideas and opinions.

Just as he has high hopes for his music career, he also holds himself to a high standard when it comes to being seen as a leader in his community.

"Technology helps me as an entrepreneur and leader in my community by helping me stay aware of what is going on, and also people can see my presence and be aware that I am available. Leading by example is an important part of being a role model. I make my own music as often as I try to support others to make music."
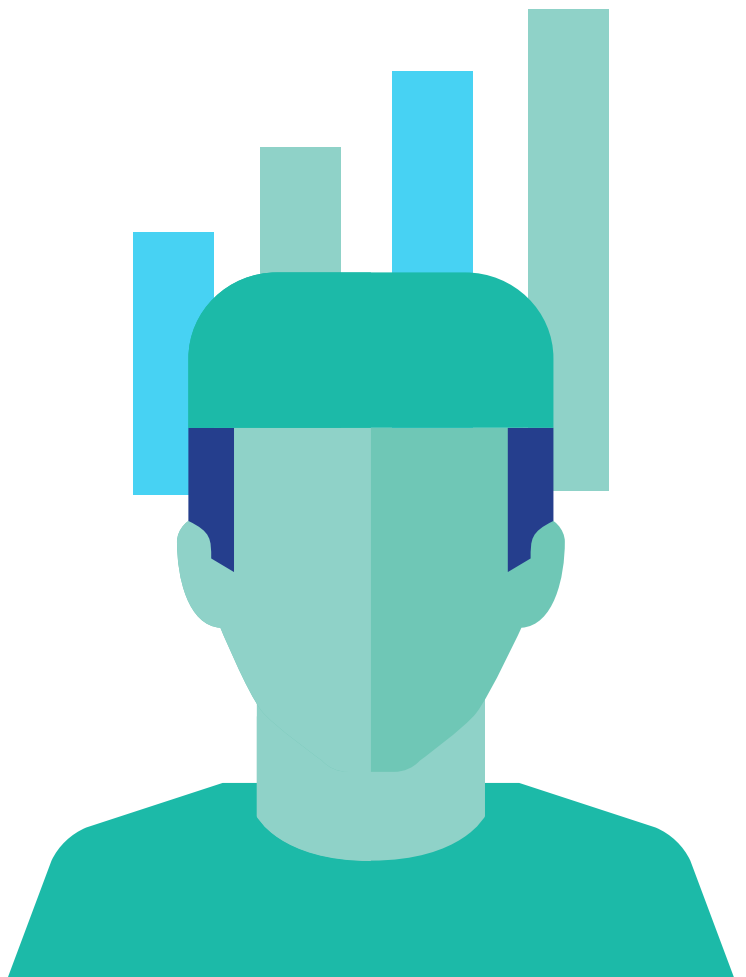
**INSIGHT ABOUT
ENTREPRENEURIAL USERS** ▼

Entrepreneurial Users like the Ethiopian co-op member and the Indigenous musician from Canada see the Internet and digital services as integral to building their businesses and reaching customers. As with other Internet users, Facebook is the Entrepreneurial User's favourite digital service. It is the most widely used service for many purposes, such as getting new customers, selling and buying goods, and creating online business profiles.

The percentage of Entrepreneurial Users from each country varies widely, from about 20% in Rwanda to just over 45% in Canada. Interestingly, 38% of Tanzanian respondents are Entrepreneurial Users,

despite the fact that fewer than 60% of our Tanzanian respondents have access to the Internet every day.

Many of the Entrepreneurial User youth we spoke to matched the image of a young, connected entrepreneur. The Ethiopian co-op member above is representative of how many young people are using technology for their business, even in countries with generally low Internet access. It confirms what we know — as natural adopters of technology, youth have incredible potential to harness technology for many purposes, including business.

THE CHANGE-MAKER USER

Change-maker Users want to know what is happening in the world. They go online to inform themselves about social issues, gather support for causes, and lead change-making campaigns in their community. Change-maker Users are often young people who have found a niche and a sphere of influence for themselves as translators and curators of digital content for friends and family, and are working to make digital content relevant to their communities. We found that 20% of youth surveyed are Change-maker Users.

20%

of the youth we spoke to are Change-maker Users.

There is overlap between the Connected User and the Change-maker User. More than 85% of Change-maker Users access the Internet multiple times a day on the smartphones they own. Further, there is overlap between Change-maker Users and Entrepreneurs. More than half (54%) of Change-maker Users are also Entrepreneurs. In contrast, we only found five Change-maker Users who are also Infrequent Technology Users without daily access to the Internet. This suggests access to technology is important for youth to be able to get involved in community leadership and change-making activities. The Change-maker User group is a significant cluster of young people who use technology often and in versatile ways.

MEET THE TYPICAL CHANGE-MAKER USER

Uses technology to connect to the world and engage with social issues
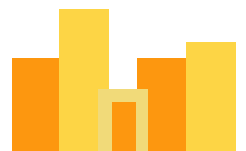
Often uses the Internet to market their business, sell and buy goods, and make payments

Often translates and/or curates online content for friends, family, and community members
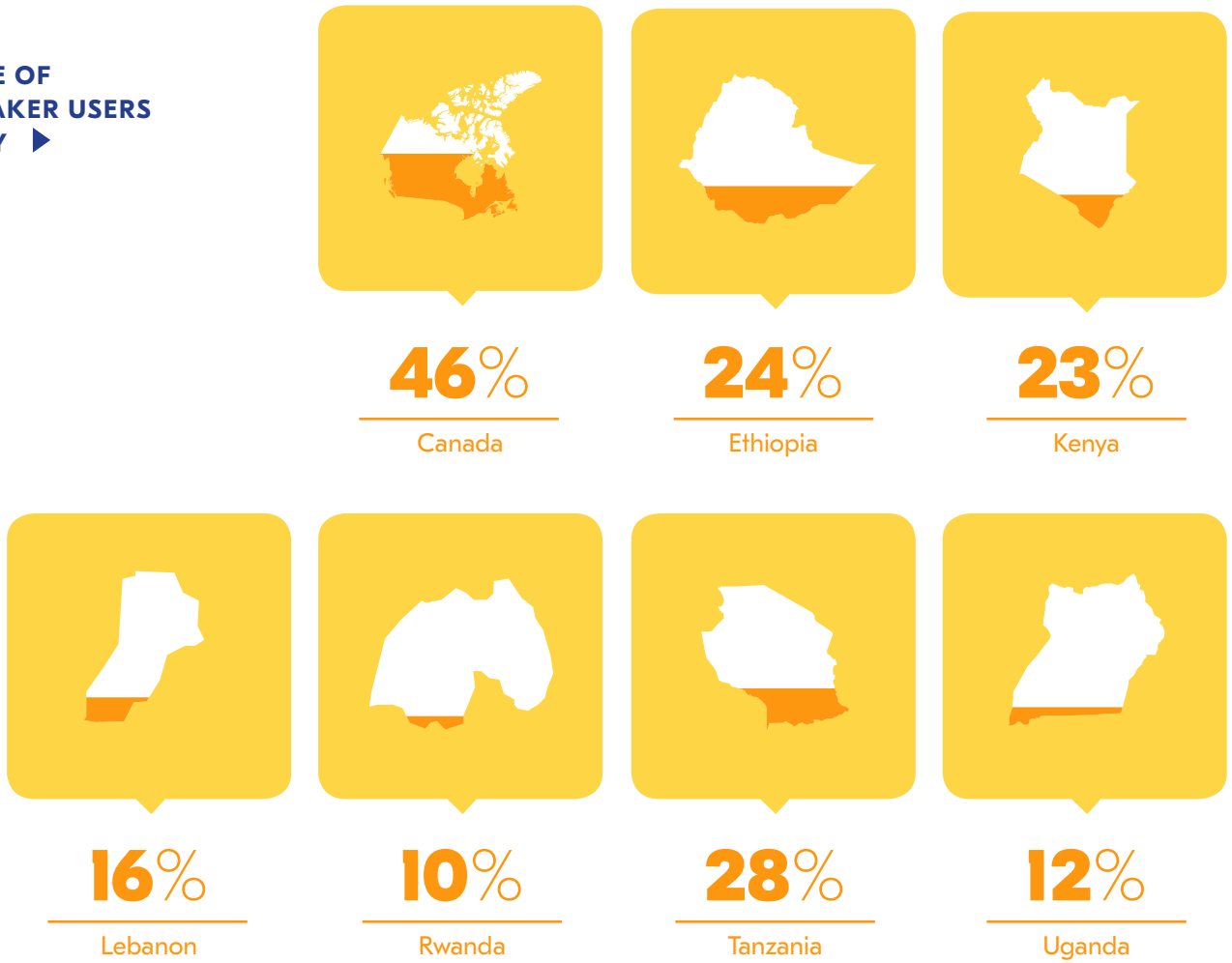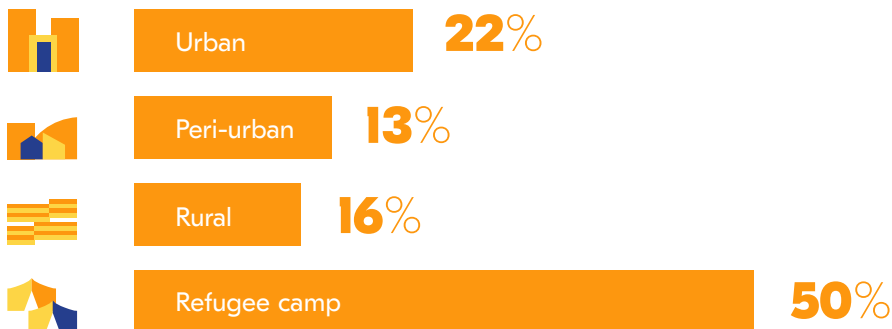
Likely to be university educated

Lives in an urban area

WHERE CHANGE-MAKER USERS LIVE

PERCENTAGE OF CHANGE-MAKER USERS BY COUNTRY ▶

46%
Canada

24%
Ethiopia

23%
Kenya

16%
Lebanon

10%
Rwanda

28%
Tanzania

12%
Uganda

PERCENTAGE OF CHANGE-MAKERE USERS BY REGION ▼

Urban **22**%
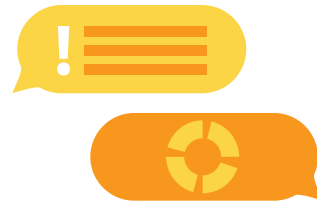
Peri-urban **13**%

Rural **16**%

Refugee camp **50**%

THE CHANGE-MAKER USER

THE STORIES BEHIND THE STATS

A young woman in a refugee camp in Lebanon raises awareness about issues in Syria. A Tanzanian man advocates for environmental causes. Here are two real examples of young people in the Change-maker User category.

A SYRIAN REFUGEE IN LEBANON OFFERS DIGITAL SUPPORT TO HER COMMUNITY

**LEBANON, FEMALE, AGE 16-19,
SECONDARY SCHOOL EDUCATION, EMPLOYED**

"I'm quite active on the Internet," says a high school graduate living in a refugee camp. It is her vital link to news about the outside world. She switches between Facebook, WhatsApp, Twitter, Instagram and YouTube, reading and sharing news about what is happening in her camp community, in Syria, and in the world.

Her technical expertise is in demand. "My family appreciates the fact that I'm technology-savvy, considering the fact that they are not because they haven't had any formal education," she says. "My friends in the camp always turn to me to help them create Facebook accounts and teach them how to use a smartphone. Sometimes my dad wants to know about the situation in Syria, so he asks me to search on Google about the current events about the war and translate for him what is happening."

Technology doesn't only help her connect to the outside world — it also has an impact on her day-to-day life in her community. She uses technology for daily tasks at the clothing shop where she works, and uses WhatsApp to coordinate work schedules with coworkers. She is teaching youth in the refugee camp to use WhatsApp so they can contact her, often for help with homework.

Her smartphone is always with her, and she also has regular access to a laptop. She uses a tablet about once a week, and sometimes uses Internet cafes as well.

She also uses these devices the way many young people do. She watches videos, listens to music, and chats with friends and family. Yet for her, technology is more than entertainment. It is important for engaging with others and debating ideas. She participates in online discussions and uses the Internet to raise awareness for causes.

Syria is a cause close to her heart — she and her friends are building an online Facebook community to raise awareness about the ongoing crisis.

"Through Facebook, my friends and I can start groups to promote a certain cause or gain attention to something that is happening in Syria, for example. We can post something and people can comment and interact even if they don't necessarily share our personal ideas."

A TANZANIAN CAMPAIGNS FOR ENVIRONMENTAL INITIATIVES

TANZANIA, MALE, AGE 25-30, URBAN, UNIVERSITY EDUCATION, EMPLOYED

In urban Tanzania, a university graduate feels a responsibility to make a difference in his community. Social media is a tool to position himself as an influencer among his peers and gain support for his ideas. He enthusiastically champions environmental and sustainable agriculture initiatives, discussing them online and leading change-making activities to make the world a greener place. Using social media, he also reaches out to politicians to make sure they hear his opinions.

While he uses many platforms, including WhatsApp, Twitter, Instagram, YouTube and Viber, he thinks Facebook is the most valuable social network for effecting change. "Facebook has many users in Tanzania compared to any other social network, so

there is a lot of potential for leaders. You can connect with like-minded people and rally around a particular matter."

While he owns a tablet, he never uses it. He spends much more time on his smartphone and laptop, following the news and discussing online. He also uses these devices for entertainment, by downloading music and watching videos, and to improve his performance at his full-time job, by accessing professional development resources, communicating with coworkers, and conducting research.

A passion underlying his use of technology is his desire to be an agent of change in his community.

> "I can use technology to take an active interest in my local community by helping to sort out problems affecting my community. For example, I have been doing Internet research on environmental degradation in my area and sharing that information with others."

**INSIGHT ABOUT
CHANGE-MAKER USERS** ▼

Change-maker Users like the Syrian refugee in Lebanon and the Tanzanian environmentalist know how to use technology and social media to further causes important to them. The causes they support are diverse, including health, refugees, and the environment — and they know how to use the tools available to them as a megaphone. Equipped with mobile devices and a hunger for change, Change-maker Users show how young people can be a powerful force that drives community well-being.
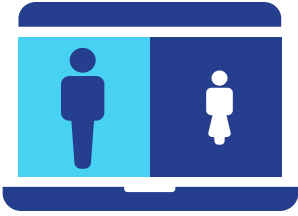
SECTION 4

CONCLUSIONS

Technology is a powerful tool for young people to achieve and create educational, social, and economic opportunities. As natural early adopters of technology and the largest demographic population in the world, youth are already transforming economies and leading change in ways that are tremendously impactful.

Our research explored how young people use technology and social media in Ethiopia, Kenya, Rwanda, Uganda, Tanzania, Lebanon and Indigenous Canada for work and income, entrepreneurship, learning, leadership, and fun. Facilitated by young people from DOT's talented network, these are youth-led insights stemming from peer-to-peer dialogue and engagement.

Our key takeaways and recommendations based on what we have learned from this project are outlined below.

#1
THE DIGITAL GENDER GAP PERSISTS

We know that women are inordinately affected by cross-cutting barriers like affordability and the digital skills gap, but previous research on gender barriers to technology use and adoption has not identified youth as a distinct demographic. We found evidence in our research that the gender gap persists, even among digital natives:

* Of young people who never access the internet, 75% of them are women
* Women are more likely to never have access to a laptop, smartphone, or basic mobile phone
* Women are more likely to never use the Internet for learning
* Women are more likely to never use social media as entrepreneurs or to generate an income
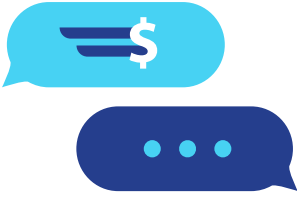
Closing the gender gap is critical to ensuring that young people all over the world have equal access to opportunities, education, and well-being. Closing this gap also means that both young men and women can be change-makers, leaders, and economic contributors in their communities, and address a diversity of social and economic challenges with their insight, passion, and digital skills.

UN Women and the ITU have identified five key action areas to close the digital gender gap:[29]

* Develop gender responsive strategies and policies
* Ensure access to ICTs by women and girls by mitigating or responding to threats online that hinder their access to and use of technology
* Build digital capacities of girls and women and support development of content, applications, and services that meet their needs
* Promote women in the technology sector, including into positions of decision-making
* Build partnerships and platforms for cross-sector collaboration

These are important recommendations, and DOT encourages all governments, development practitioners, and private sector organizations to not only commit to action, but to commit to engaging youth to co-create inclusive solutions.

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29 International Telecommunication Union, "Action Plan to Close the Digital Gender Gap" (2015)

#2
YOUTH SAY THAT AFFORDABILITY AND RELEVANT CONTENT ARE THE BIGGEST BARRIERS TO TAKING ADVANTAGE OF DIGITAL OPPORTUNITIES

The World Economic Forum, GSMA, ITU and others have identified five barriers that stand in the way of young people having universal access to technology: affordability, infrastructure, digital literacy, relevant content, and social norms.

However, we found that affordability, infrastructure, and locally relevant content are the issues most cited by youth as significant and high-priority barriers to their full use of technology.

Although we found that 82% of young people have an Internet-enabled device with them at all times and 83% have Internet access every day, data packages can be prohibitively expensive and connections are often unstable. This means that young people who want to take advantage of online learning, work, and income generating opportunities are often unable to do so because of the associated data costs, and the need for regular, consistent access to sustain their activities.

Many young people noted that a lack of content in their own language was a barrier to using the Internet.

Our Change-maker Users often found a niche and sphere of influence as translators and curators of digital content for friends, family, and their community.

GSMA notes that the majority of 'localized' content is simply translated from dominant languages, while locally created and locally relevant content is equally as important, yet much rarer. Content that is created in local markets and addresses specific needs is a pressing gap in the digital ecosystem, and a significant barrier to technology uptake.[30]

We observe that youth are becoming the creators of this truly local and localized content. As GSMA says, "the challenge with creating locally relevant content in emerging markets is knowing exactly what the target individuals want and need."[31] We propose that, as natural adopters of technology who have deep insight into the needs of their community, young change-makers, entrepreneurs, and connected users be purposefully supported to fill the demand for impactful, truly local content.

30 GSMA Intelligence, "Local world — content for the next wave of growth" (2014) **31** Ibid

#3
IT'S IMPORTANT TO ENGAGE YOUTH IN RESEARCH AND DIALOGUE ABOUT ISSUES THAT DIRECTLY IMPACT THEM

Our research into how youth are using and accessing technology was youth-led, facilitated by 19 young people who are youth advocates, experienced facilitators, and familiar with their local communities. That they were connecting with other young people in their own communities was crucial to the depth of insight they were able to gain as researchers.

Meaningful engagement of youth is key to the promotion of inclusive digital opportunities, inclusive societies, and solving pressing needs in communities.

As one young person in the DOT network shared with us, "Most governments and organizations don't appreciate the skills, expertise, and perspectives that youth bring to the table." There is real opportunity to directly engage youth in research and dialogue about the issues that impact them.
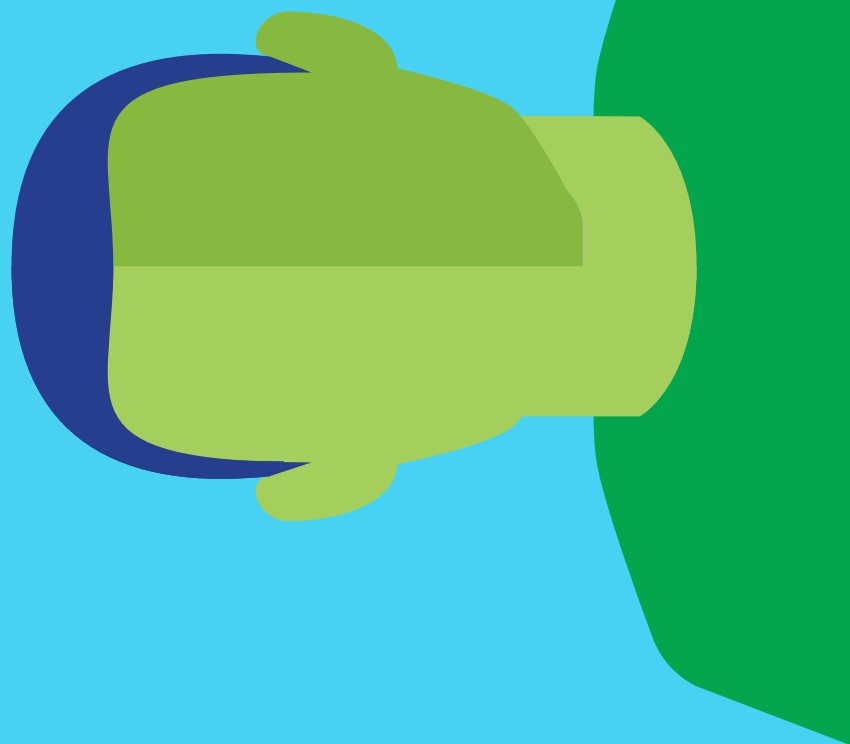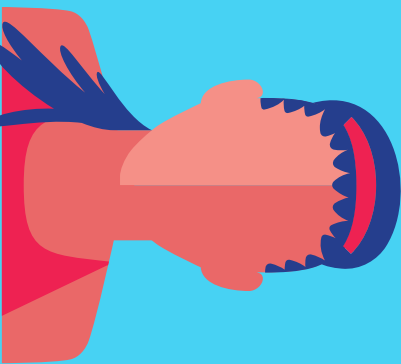
Youth show an exceptional rate of return on investments in practical skills training, leadership training, social enterprise, and resiliency. We strongly encourage organizations across sectors to engage youth in research, dialogue, and forums. As change-makers, leaders, social innovators, and natural early adopters who are contributing real solutions to their communities, their voices must be at the table.

YOUTH
VOICES

This report is a part of Digital Opportunity Trust's Youth Voices series, which engages young people as important participants in global discussions about technology, development, and social and economic change.

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