



Women and the Web

Bridging the Internet gap and creating new global opportunities in low and middle-income countries



Dalberg



For over 40 years Intel has been creating technologies that advance the way people live, work, and learn. To foster innovation and drive economic growth, everyone, especially girls and women, needs to be empowered with education, employment and entrepreneurial skills. Through our long-standing commitment to helping drive quality education, we have learned first-hand how investing in girls and women improves not only their own lives, but also their families, their communities and the global economy. With this understanding, Intel is committed to helping give girls and women the opportunities to achieve their individual potential and be a power for change.

www.intel.com/shewill

For questions or comments about this study, please contact Renee Wittemyer (renee.wittemyer@intel.com).



Dalberg Global Development Advisors is a strategy and policy advisory firm dedicated to global development. Dalberg's mission is to mobilize effective responses to the world's most pressing issues. We work with corporations, foundations, NGOs and governments to design policies, programs and partnerships to serve needs and capture opportunities in frontier and emerging markets.

www.dalberg.com



For twenty-five years, GlobeScan has helped clients measure and build value-generating relationships with their stakeholders, and to work collaboratively in delivering a sustainable and equitable future. Uniquely placed at the nexus of reputation, brand and sustainability, GlobeScan partners with clients to build trust, drive engagement and inspire innovation within, around and beyond their organizations.

www.globescan.com



Over just two decades, the Internet has worked a thorough revolution. Never before has information been so widely available, business more efficient and transparent, or people better connected to one another. The Internet can be a great equalizer. And yet, access to it is not equally distributed. The Internet gender gap is particularly salient in developing countries, with very real consequences for women and girls, their communities, and their nations.

Although acknowledged by the development community, the Internet gender gap is remarkably uncharted. Before this groundbreaking report, little comprehensive data existed—even the size of the gap was unknown.

To better understand the gap, Intel Corporation commissioned this study and consulted with the U.S. State Department's Office of Global Women's Issues, UN Women, and World Pulse, a global network for women. The report begins to answer questions such as: What is the size of the Internet gender gap? What prevents women from accessing the Internet? What will help more women get online access? We also wanted to learn how women in developing countries are already using the Internet and how they benefit. This is based on our belief and experience that closing the Internet gap has tremendous potential to empower women and enrich their lives.

The result of the study is this report, the first compilation of the global data on how women in developing countries access and use the Internet. I am convinced this report provides

key insights for policy makers, the development community and industry. Based on interviews and surveys of 2,200 women in developing countries, as well as interviews with experts and a review of existing literature, this report found that, on average, 23 percent fewer women than men are online in developing countries. This represents 200 million fewer women than men who are online today. In some regions, the size of the gap exceeds 40 percent. In addition, in many regions, the Internet gender gap reflects and amplifies existing inequalities between the sexes.

We know that many women who use the Internet derive profound benefits through it, including economic and educational opportunities, a community of support, and career prospects. As the report indicates, expanding Internet access for women would also provide a significant boost to national income.

We all benefit when women around the world are informed, connected, educated, and able to contribute their maximum toward economic and social development. Intel will continue to take

action to bridge this gender gap and empower women through innovation and education. With rapid technological and demographic change afoot, now is the time for cooperative action and impact. We look forward to working with stakeholders to expand Internet access to women globally. Doing so will benefit the women in the developing world, their families and communities, their nations, and society.

Shelly Esque
President, Intel Foundation and Vice President,
Corporate Affairs, Intel Corporation



Information and communication technologies (ICTs) represent a significant opportunity for advancing gender equality, women's empowerment and equitable development. ICTs and access to the Internet provide basic infrastructure for the 21st century and a set of tools that, when appropriately used, can offer benefits for women in all spheres of life. Given the convergence with traditional media, they also offer a mechanism for combatting pervasive gender stereotypes that continue to hold back progress for gender equality everywhere.

Although this is widely acknowledged, women are not yet fully reaping the rewards of Internet access and ICTs more broadly. Establishing a deeper and broader understanding of women's participation in the digital revolution is an important step in bringing about change. We at UN Women welcome all efforts to provide new—and reinforce existing—data, research, and evidence that support effective action and that create greater and sustained visibility for this issue. There is much at stake, with much to lose if women are left behind.

Internet access enhances women's economic empowerment, political participation and social inclusion through initiatives that support increased productivity and income generation, mobilization and accountability, as well as improved livelihoods and expansion of services. Multiple pathways to empowerment exist, including the development of social movements, expression of voice and agency, and exposure to information, knowledge and new ideas—all of

which are central to creating gender-responsive, adaptive, and innovative societies.

Yet, special efforts need to be made to ensure that these benefits are attained. Realizing what is still largely a potential for most women takes deliberate measures and careful application of a gender lens in policy, investments and initiatives, as well as attention to women's access to resources, and a transformation of underlying social and cultural norms that impede women's empowerment.

We can address current constraints and unleash this potential by improving women's access to the Internet and the broader range of ICTs, enhancing their capacities to use and develop them, as well as by developing relevant content that addresses their needs. Moreover, steps should be taken to support women's equal participation at all levels of the ICT sector, private and public.

For its part, UN Women is committed to actively working with partners on the development of

normative frameworks, policies, and on-the-ground initiatives that build on data and evidence and draw from creativity to promote more holistic solutions. These solutions will ultimately result not in small scale or ad hoc gains but in the transformative application of ICTs for women everywhere.

A handwritten signature in black ink, reading "Michelle Bachelet".

Michelle Bachelet
Under-Secretary-General and Executive Director,
UN Women



In February 2010, the Cherie Blair Foundation and GSMA Development Fund published the report “Women & Mobile: A Global Opportunity,” quantifying for the first time the gender gap in access to mobile technology across developing countries. The report spawned a worldwide movement to close the mobile gender gap, led by the GSMA’s mWomen Initiative. At the mWomen launch, Secretary of State Hillary Rodham Clinton characterized it as “another big step on the road to gender equality, the freedom to connect, and all the opportunities that flow from it.”

Yet, as Secretary Clinton has also noted, “2.3 billion people around the world have access to the Internet. We don’t know how many of them are women. That means researchers don’t have data to study how women in developing countries use the Internet.” This new report on “Women and the Web” is taking yet another big step forward in expanding our understanding of women and technology in developing countries. This is the first comprehensive study on how women and girls use the Internet, one of the most transformative technologies in the modern world. Almost three years later, we find that the gender gap in women’s access to the Internet is even greater than that of mobile phones. And, in Africa, men are almost twice as likely to have access to the Internet than women. With the powerful capabilities the Internet enables—to connect, to learn, to engage, to increase productivity, and to find opportunities—women’s lack of access is giving rise to a second digital divide, one where women and girls risk being left further and further behind.

This dramatic differential in access to the Internet results in fewer opportunities for women to reach their full potential and a loss of significant economic and social contributions to their families and communities. Without the Internet, a woman may not be able to access information to further her own and her children’s education, obtain practical tools and information to run her business effectively, seek life saving medical advice, or engage with the government and civil society. Access to the Internet, on the other hand, can empower women with the information, freedom, and tools to make the best decisions for themselves and their families.

As the world advances, our approach to combating poverty, discrimination, and development must evolve with it. We have repeatedly seen that investing in women’s progress is the most direct and effective way to invest in progress economically and socially around the world. My hope is that this report will catalyze action to close the Internet gender

gap. This will require leadership, determination and collaboration among governments, public institutions, corporations, and civil society to tackle the wide range of gender-specific barriers to Internet access. By doing so, we can ensure that women have equal access to the critical technologies, such as the Internet and mobile phones, that can improve their lives and well-being.

Melanne Verveer
Ambassador-At-Large for Global Women’s Issues
U.S. Department of State

Acknowledgments

Intel Corporation and Dalberg Global Development Advisors would like to thank the individuals and organizations who have so generously shared their time, knowledge and expertise to this study.

We thank the following individuals who contributed their time and expertise for interviews, data collection, source verification, case studies, user profiles and more. Without their support, this study would not have been possible:

Dr. Genevieve Bell, Intel Fellow and Director, Interactions & Experience Research, Intel Labs; Albert Mucunguzi, PC Tech Magazine; Alexander Peiniger, AllFacebookStats (now Quintly); Fernando Gutierrez and Ana Estrada, World Internet Project Mexico; Anita Gurumurthy, IT for Change; Ashish Mehra, India technology consultant; Bas Hoefman and Hajo van Beijma, TextToChange; Beth Gertz, GSMA mWomen; Chris Burns, USAID; Cissy Nyarwa, Ntulume Village Women's Development Association (NVIWODA); Cristina Avila Zesatti, Corresponsal de Paz; Diana Korka and Doris Lucía Olaya Medellín, International Telecommunication Union (ITU); Dorothy Okello, Women of Uganda Network (WOUGNET); Emily Jacobi and Emilie Reiser, Digital Democracy; Eva Rathgeber, University of Ottawa/Carleton University; Gayatri Buragohain, Feminist Approach to Technology (FAT); Grace Ikirimat, Uganda Population Secretariat; Jenna Burell, University of California, Berkeley; Kellie McElhaney, University of California, Berkeley; Linda Raftree, Plan International; Louise Guido, Foundation for Social Change; Martin Hilbert, University of Southern California; Maureen Agena, technology journalist

and TextToChange; Melva Sangri, Mama Digital; Mohamed El Dahshan, Ain Shams University; Nancy Hafkin, Senior Associate at Women in Global Science and Technology (WISAT); Osama Manzar, Digital Empowerment Foundation; Passent Moussa, Women Ombudsmen Office in Egypt; Rania Fawzi, Chemonics International, Inc.; Samia Melhem, World Bank; Tarun Abhichandani, IMRB International; and Trina DasGupta, GSMA Foundation.

This study was authored by Yana Watson Kakar, Vicky Hausman, Andria Thomas, and Chris Denny-Brown of Dalberg Global Development Advisors, in collaboration with Pooja Bhatia who provided editorial expertise. Surveys were conducted in Egypt, India, Mexico, and Uganda by GlobeScan and its partners, a team led by Sam Mountford and Caroline Carson. Finally, design and layout of this report was done by Corporate Visions.

We would also like to offer a special thanks to a few individuals who contributed significant time in sharing their leadership and expertise to the production of this study: Dr. Renee Wittemyer, Director of Social Impact in Corporate Affairs at Intel Corporation; Jennifer Breslin, Knowledge and Innovation Coordinator for UN Women; Ann Mei Chang, Senior Advisor for Women and Technology, Secretary's Office of Global Women's Issues, U.S. Department of State; Dr. Kathi Kitner, Senior Research Scientist, Experience Insights Lab, IXR, Intel Labs; and Jensine Larsen, Founder and CEO of World Pulse.

Intel Corporation and Dalberg Global Development Advisors would like to take this opportunity to thank a special partner. World Pulse served as an essential partner for this research study through the guidance they provided on content, and by connecting us to women in their online community who are using the Internet as a platform for expression and social change.

World Pulse is a non-profit action media network with the mission of lifting and uniting women's voices to accelerate their impact in the world. Through World Pulse's web-based platform, women are speaking out and connecting to create solutions from the frontlines of today's most pressing issues. Focusing on grassroots women change leaders, World Pulse's programs nurture community, provide media and empowerment training, and channel rising voices to influential forums. (www.worldpulse.com)

Glossary of terms

For the purposes of this report, terms are defined as described below.

- **Developing country:** All countries classified by the World Bank as low and middle income countries.
- **Feature phone:** A phone that lacks the more advanced capabilities of a smartphone such as the ability to download applications, but that may offer Internet connectivity. Its primary use is for voice or SMS communications. Feature phones typically do not have screens or keyboards of a size or functionality equal to smartphones.
- **Internet user:** Any individual who accesses the Internet on any platform at any location at least once a month.
- **Low income country:** As defined by the World Bank, any country in which gross national income per capita in 2011 at purchasing power parity was USD 1,025 or less.
- **Lower-middle income country:** As defined by the World Bank, any country in which gross national income per capita in 2011 at purchasing power parity was between USD 1,026 and USD 4,035.
- **Multiplatform Internet user:** Any user who accesses the Internet through both a computer platform (desktop or laptop, or also a tablet) as well as a mobile platform (feature phone or smartphone).
- **Smartphone:** A mobile phone intended to be used for applications as well as voice and SMS communications. Smartphones have more advanced application capabilities and more comprehensive Internet offerings than a feature phone. Advanced features can include a full keyboard or touchscreen, the ability to download applications, and a larger screen.
- **Upper-middle income country:** As defined by the World Bank, any country in which gross national income per capita in 2011 at purchasing power parity was between USD 4,036 and USD 12,475.

Table of contents

Acknowledgments	7	Understanding and overcoming gender barriers to the Internet	46
Glossary of terms	8	Gender barriers to access	47
Executive summary	10	I. Lack of awareness	48
A call to action	14	II. Lack of ability/Facility	49
Context and approach	16	III. Cultural norms	52
Background	16	Internet landscape in developing countries	59
Objectives	16	Evolution and expansion of women's online engagement	68
Our approach	18	Internet maturity	70
Sizing the opportunity	22	Platforms: How women access the Internet influences how they use it	74
Sizing the Internet gender gap	22	Demographics and content preferences	81
An ambitious but achievable target: 1.2 billion women online in three years	25	The future of the Internet for women in developing countries	82
Market opportunity	27	Opportunities and implications for action	88
Sizing the effects on GDP	28	Recommendations	89
How the Internet benefits women and beyond	30	Initial specific interventions	91
Internet access provides concrete benefits in education and job opportunities	30	Looking ahead: a call to action	94
Internet access can be a gateway to empowerment	36	Annex	95
Not all access is equally empowering	44		

Executive summary

From activists in Egypt to coffee farmers in Colombia, the Internet has transformed the lives of billions of people. It functions as a gateway to ideas, resources, and opportunities that never could have been realized before, let alone fathomed. All around the world, the Internet is helping people to imagine new possibilities—and then, to make them happen.

But women and girls are being left behind.

On average across the developing world, nearly 25 percent fewer women than men have access to the Internet, and the gender gap soars to nearly 45 percent in regions like sub-Saharan Africa. Even in rapidly growing economies the gap is enormous. Nearly 35 percent fewer women than men in South Asia, the Middle East and North Africa have Internet access, and nearly 30 percent in parts of Europe and across Central Asia. In most higher-income countries, women's Internet access only minimally lags that of men's, and in countries such as France and the United States, in fact exceeds it.

Bridging the Internet gender gap represents an opportunity of immense proportions. Internet access is fast becoming an indispensable entrée to a hyper-connected world. The Internet contribution to global GDP is greater than the GDP of Canada.¹ In India, Internet-based economic activity accounts for more than 5 percent of GDP growth.² Without access to the Internet, women lack access to its tools, resources and opportunities. And because women are critical collaborators in the effort to achieve development goals such as reduced child malnutrition and mortality,³ or increased economic growth,⁴ this gap disadvantages not just women, but their families, communities and countries. As the findings from this study demonstrate, Internet access and usage:

- **Boosts women's income and income potential.** Across our surveyed countries, nearly half of respondents used the web to search for and apply for a job, and 30 percent had used the Internet to earn additional income.
- **Increases women's sense of empowerment.** More than 70 percent of Internet users considered the Internet "liberating" and 85 percent said it "provides more freedom."
- **Increases women's sense of equity.** While the international community is split over whether access to the Internet is a human right in itself, nearly 90 percent of women Internet users surveyed said it should be.

A dedicated global effort to address the Internet gender gap could double the number of women online within three years. Although access to the Internet is spreading rapidly in developing countries, women are nearly 25 percent less likely than men to be online. This gender gap—which today prevents a staggering 200 million women from participating online—is projected to perpetuate. A dedicated and coordinated effort by public and private sector actors is urgently needed to accelerate the pace of progress in bridging this gap. Without any concerted action, 450 million new female Internet users are projected to come online in the next three years, simply as a result of organic

growth in Internet penetration. We believe progress can be accelerated to add 600 million new female Internet users within three years, rather than 450 million, which would double the number of women and girls online. As this report will explain, doubling the women and girls online in such a short timeframe is an ambitious but eminently achievable goal—given a concerted multi-stakeholder campaign. This is an opportunity worth urgently pursuing because the faster the internet gender gap is closed, the sooner women, their families, communities and countries will realize the significant socio-economic benefits that can be unlocked through access to the Internet.

Enabling Internet access for an incremental 150 million women promises immediate—and immense—benefits.

Seeing another 600 million women online would mean that 40 percent of women and girls in developing countries would have access to the transformative power of the Internet. As a result, it would...

¹ "The great transformer: The impact of the Internet on economic growth and prosperity," McKinsey Global Institute. 2011.

² "Online and coming: the Internet's impact on aspiring countries: Mexico," McKinsey & Company. 2012.

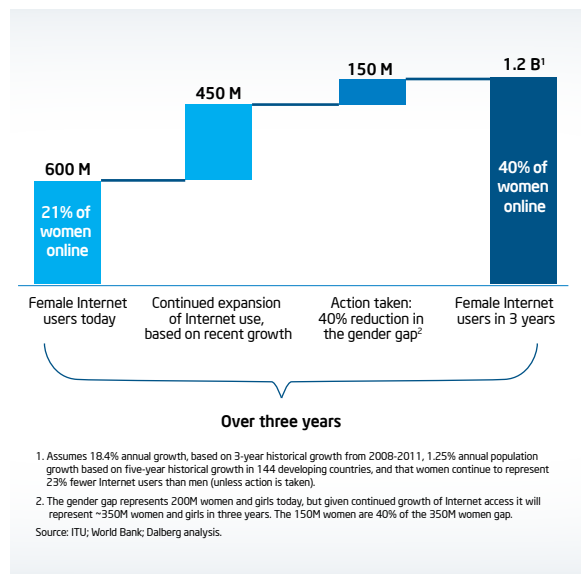
³ Each additional year of female education reduces child mortality by 18 per thousand. The World Bank Group, "Girls' Education: Designing for Success," The World Bank Africa Region Human Development. As cited in Murphy, S. "Investing In Girls' Education: An Opportunity for Corporate Leadership." Harvard Kennedy School. 2009.

⁴ Each 1 percent increase in the level of women's education generates .3 percent in additional economic growth. Knowles, S., P.K. Lorgelly, and P.D. Owen. 2002. "Are Educational Gender Gaps a Brake on Economic Development? Some Cross-Country Empirical Evidence." *Oxford Economic Papers* 54: 118-149. As cited in Murphy, S. "Investing In Girls' Education: An Opportunity for Corporate Leadership." Harvard Kennedy School. 2009.

...the gender gap soars to nearly 45 percent in regions like sub-Saharan Africa. Even in rapidly growing economies, such as India, the gap is enormous: nearly 35 percent in South Asia and the Middle East & North Africa and nearly 30 percent in Europe & Central Asia.



Figure 1: 1.2 billion women and girls online within three years



- ... dramatically expand opportunities for over half a billion women and girls: about 180 million would improve their ability to generate income, nearly 500 million would improve their education, and over 500 million would feel they had greater freedom as a result of being online.⁵
- ... open up a market opportunity of USD 50 to USD 70 billion, in new sales of platforms and data plans.⁶
- ... contribute an estimated USD 13 to USD 18 billion to annual GDP across 144 developing countries.
- ... and reach beyond these women to also expand opportunities for their families as well, potentially impacting three billion people worldwide.

This report is an urgent call to action, presenting a pathway towards closing the Internet gender gap and unleashing the benefits of women and girls online. The report's findings are based on interviews and surveys of 2,200 women and girls living in the urban and peri-urban areas of four focus countries: Egypt, India, Mexico, and Uganda. Survey findings were substantiated and supplemented by extensive research of existing literature, analysis of global databases, and interviews with more than 40 experts in the fields of gender, the Internet, and ICT (Information and Communications Technology) for development.

Further findings of this report are as follows.

- One in five women in India and Egypt believe the Internet is not “appropriate” for them. Gender-based barriers are real. These women believe engaging online would not be useful for them, and if they did, their families would disapprove. Gender-based barriers like this range from internalized gender norms to outright prohibition, and their effects vary across regions and households. In some communities, gender norms restrict women from walking on the street—

and certainly from visiting cybercafés that may be the only means of accessing a computer. Stereotypes about women's lack of skill or interest in technology are also a factor. Family support is a critical enabler of women's Internet use, with active Internet users in our survey almost three times as likely as non-users to report that their families were “very supportive” of their using the Internet, while non-users were six times more likely to report family opposition.

- Affordability of access remains a challenge for all, but particularly for women and girls. An earlier survey of households in Africa found that in some countries as many as 50 to 70 percent of respondents cited cost as the main reason they were not connected.⁷ In our survey, affordability was cited as a barrier by those who were not yet online, as well as by current users for why they were not using the Internet more. Although there were other gender-specific barriers more frequently reported as constraints, the cost of access clearly remains a barrier that disproportionately affects women.⁸
- Illiteracy also poses a greater problem to online access for women than for men. Across all developing countries, about 75 percent of women are literate, compared to 86 percent of men. The difference is much greater in some countries; for example, in India only 51 percent of women can read and write, whereas 75 percent of men can. Without this fundamental skill, the Internet will remain out of reach.
- Lack of awareness of the Internet's potential benefits keeps women from tapping its potential. Fully a quarter of non-users expressed a general lack of interest in the Internet and nearly a quarter said they do not believe they need it. Even women *with* Internet access were unaware of its potential utility beyond

being a gateway to familiar sites such as Facebook and YouTube.

- **Almost 40 percent of women who don't use the Internet cite lack of familiarity or comfort with technology as a reason.** Women are not inherently less adept at technology than men, and as analyses have shown, so-called technophobia is largely a reflection of gender disparities in education, employment, and income.⁹ Instead, women who are uncomfortable with technology typically lack the exposure to the Internet necessary for digital and information literacy, as well as opportunities to learn and practice computer skills. More than half of the women without formal education said they were not familiar or comfortable with the technology, but only 15 percent of women with some high school education or more said the same.
- **There are women with exposure, and seemingly easy access to Internet platforms who are not yet engaging online.** According to our survey, a third of non-users have a desktop in their home, and more than 90 percent have a mobile phone in their home. Similarly, more than 20 percent of women with some college education are not accessing the Internet, and nearly 20 percent of higher-income women are not yet online. These characteristics define users who have already progressed past some of the most challenging barriers to access, such as access and affordability, and may need only one last encouragement to join the online world.
- **Women who access the Internet via more than one platform report greater benefits than those who use only computers or only mobiles.** The 44 percent of women who access the Internet across multiple platforms were more likely to say that Internet use had brought them benefits such as additional income, job

and networking opportunities, and help with their studies. Women who used the Internet only on computers (also roughly 44 percent) or only via mobile phones (roughly 11 percent) also reported benefits but to a notably lesser extent—the multiplatform users reported nearly 20 percent more of these self-reported benefits than did others. Using multiple platforms can combine the distinct advantages of computers (more functionality, ease of use) with the appeal of mobile Internet to women in particular (flexibility, privacy).

- **The longer a woman has been engaging online, the more likely she is to engage in activities that yield tangible benefits.** Women with more than five years of online experience are twice as likely to seek out information on financial services and banking, or related to their source of income, than women who have joined the Internet within the last year. They are also 50 percent more likely to buy things online. By comparison, recent users are more likely to use the Internet to play games, listen to music, or download films. The benefits of more experience with the Internet can be seen at the country level as well. Mexico had 10 percent of its population online by 2002, and as a result, nearly 60 percent of the users surveyed in Mexico had six years of experience on the Internet. By comparison, in Egypt only 6 percent of respondents had been online that long.

⁵ Based on the target of 600 million additional women online within three years: 30% of women cited income generation as a benefit of Internet use, 80% said that it improved their education or studies, and 85% agreed with the statement that the Internet gave them greater freedom.

⁶ Calculation of USD 55-64 billion range is rounded. Methodology is described in the section *Sizing the opportunity* and further in the Annex.

⁷ Gillwald, Alison. Understanding Broadband Demand in Africa: Internet Going Mobile, ResearchICT Africa (2012). Accessed at <http://www.researchictafrica.net/docs/Gillwald%20CIT%20Zambia%20Broadband%202012.pdf>.

⁸ Women participate less in the labor force than men and also suffer from a wage gap relative to men's wages. For example, women earn nearly 18% less in nominal wages than men in OECD countries (Source: Rampel, P. "The Gender Wage Gap, Around the World", New York Times (2010)). And in Arab States, only 28 percent of women participate in the labor force. (Source: World Bank, "World Bank calls for expanding economic opportunities for women as global economic crisis continues", press release 29 January 2009, as cited by UN Women: http://www.unifem.org/gender_issues/women_poverty_economics/facts_figures.html)

⁹ Hilbert, M. "Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics." Women's Studies International Forum, 34(6), 479-489. (2011) <http://dx.doi.org/10.1016/j.wsif.2011.07.001>

The developing world's women and girls stand on the cusp of a profound possibility to improve, and even transform, their lives.

A call to action

Doubling the number of women online within three years is an eminently achievable goal, but it cannot be done alone. Capturing that opportunity will require commitments to action across the private, public and civil society sectors.

The developing world's women and girls stand on the cusp of a profound possibility to improve, and even transform, their lives. To help them, stakeholders must put the Internet within their grasp by making it more accessible, affordable, convenient, secure, and engaging for them. The effort will require stakeholders to collaborate and leverage one another's strengths.

The following recommendations would address the barriers to access and increased usage identified in this study. They are based on existing actions which work well and could be scaled and replicated, proposals of experts in gender and ICT, and, in some cases, on the suggestions of women and girls who participated in our survey. These recommendations cover a range of interventions from skills and leadership training, to social empowerment, to research and data gathering. Success requires recommendations be tailored to each country context in their implementation, and is contingent on coordinated and collaborative action across the public and private sectors.

Stakeholders in industry should:

- Expand access to affordable platforms through innovative low-cost designs, such as through technology designed specifically for education
- Expand options for free content access to generate interest and lower the initial hurdle for non-users, for example by making content available without data charges through the mobile Internet, while recognizing that such content is not a substitute for unrestricted access on fully functional platforms

Stakeholders in the development community should:

- Support the establishment and growth of Internet advocacy organizations that prioritize gender-focused initiatives. Examples are WOUGNET (the Women of Uganda network) at the country level, ArabDev at the regional level, and APC (the Association for Progressive Communication) at the global level

Policymakers should:

- Develop comprehensive national plans for increasing broadband penetration that address gender-specific barriers to access
- Address market constraints that impact the affordability of Internet platforms, such as ensuring healthy competition, while also supporting women directly through programs such as targeted subsidies

All stakeholders should collaborate to:

Address factors hindering access for **individual women and girls**:

- Develop and share content relevant to women, such as health information and e-government services, as well as “safe” online communities that encourage expression while addressing appropriateness concerns
- Ensure that existing Internet access initiatives give women and girls a seat at the table, and that they incorporate the full package of needs: hardware, software, connectivity, training, and ongoing support/ maintenance
- Integrate digital and information literacy into existing programs targeting women and girls
- Address the gender inequality underlying many barriers to Internet access; for example, by investing in girls' education or women's access to finance
- Invest in bringing technology and long-term training

to the hardest to reach populations, such as low-income and rural women

- Support piloting of programs to address women-specific needs, such as for “safe” access points like women-only Internet cafes, and government measures to increase online safety

Address factors affecting the Internet ecosystem:

- Make topic experts available to bring gender awareness to telecommunications policies, and technical awareness to gender policies. For example, universal access programs should be designed to address the types of gender-specific barriers identified by this study
- Bring women to the table as leaders and decision makers throughout the ecosystem to serve as role models, and to advocate for inclusion of and ensure that gender-specific considerations are represented as policies, products and services are developed
- Collect and openly share gender-disaggregated access and usage data
- Invest in local women ICT leaders to serve as role models, trainers, content creators, and supporters for women and girls in their communities
- Establish public-private partnerships to continue studying the gender perspective, expand awareness of the Internet’s benefits, and develop actionable recommendations

Figure 2: A call to action

The Internet is the global gateway to ideas, resources and opportunities that has the potential to transform the lives and livelihoods of all people...and yet not all people have equitable access to the Internet and the ability to unleash its promise.

On average across the developing world,
nearly 25% fewer women and girls are online than men and boys,
and this gender gap climbs to above 40% in regions like sub-Saharan Africa

Taking action can double within three years the number of women and girls with Internet access

Enabling Internet access for 150 million women and girls, beyond the 450 million who are already poised to come online, is an ambitious yet achievable goal promising immediate and immense benefits:

- Empowering 600 million women to enhance their knowledge, skills, and rights
- Expanding horizons for households totaling almost three billion people worldwide
- Opening up a market opportunity of USD 50-70 billion
- Contributing an estimated USD 13-18 billion annually to GDP in developing countries



Context and approach

Background

Over the space of just two decades, the Internet has rapidly evolved its ability to inform, connect, enable, and empower. From distance learners and small business owners to democracy activists and music downloaders, the Internet has allowed people around the world to imagine and construct new possibilities for themselves, their families, and their nations. While scholars debate whether Internet access is a human right, there is no question that it is a powerful force for human flourishing.

The transformative effects of the Internet have been so profound that it can be jarring to note that most of the world is not actually online. Indeed, more than two-thirds of the world's population—about 4.6 billion people—still lack Internet access. Given that women and girls enjoy fewer educational and career opportunities globally, and in some places also face the endurance of restrictive gender norms, it is not surprising to find that through this study that most of them are women.

Objectives

To address the Internet gender gap and identify opportunities to reach even higher targets of Internet access, we first need a better understanding of how women and girls in low and middle income countries relate to the Internet—how they use it, how they understand it, and their barriers to access and use. This information is critical for a variety of ends. For Internet providers and hardware manufacturers, it's market information that helps them meet the needs of an emerging consumer class. But such data is also crucial for those whose mission centers on gender equality, poverty reduction, and economic development—in short, all those who are invested in empowering women to better the lives of themselves,

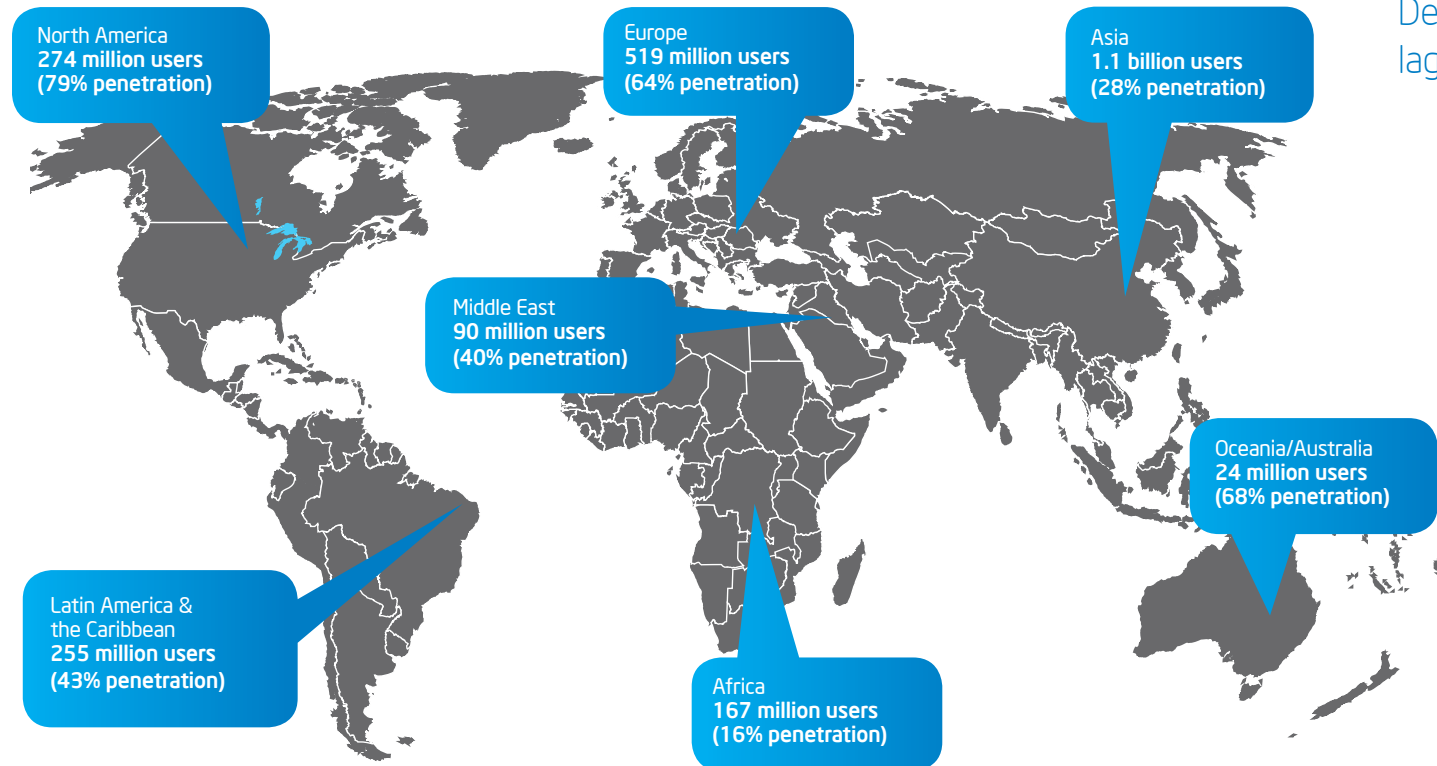
their families, and their communities. After all, the case for gender-specific initiatives is stronger with proof that women do indeed lag in access and an understanding of which barriers to prioritize.

Consolidating, and contributing to, data available on Internet access and usage by women and girls in developing countries was one of this study's main objectives. This study leverages a database of Internet access statistics across 144 low and middle income countries, enabling comparisons between countries and regions. And through primary survey data collected in Egypt, India, Mexico, and Uganda, comparisons of deeper Internet usage trends are possible between these countries as well.

The question of how we can improve women's and girls' access to the Internet must begin with an evidence-based understanding of the present context. This report, rich in primary data and drawing from global databases and practitioners' research and experiences, seeks to provide it. It (i) identifies how women and girls in low and middle income countries access the Internet, (ii) validates the benefits that can result from Internet use, and (iii) identifies barriers that prevent women from getting online—as well as ways to overcome them.

Understanding the gap between where women are today and the level of Internet access they *could* achieve is important. But the goal of this report is not simply to raise the level of access for women and girls above where it is today. Instead, its goal is to help women and girls realize *as many benefits of usage as possible*. These goals are more important than closing the Internet gender gap alone, which limits the conversation to what has been achieved by men. This study intends to open a conversation about what can be achieved by women, and from there, to identify opportunities to improve lives and livelihoods, as well as to unleash new markets.

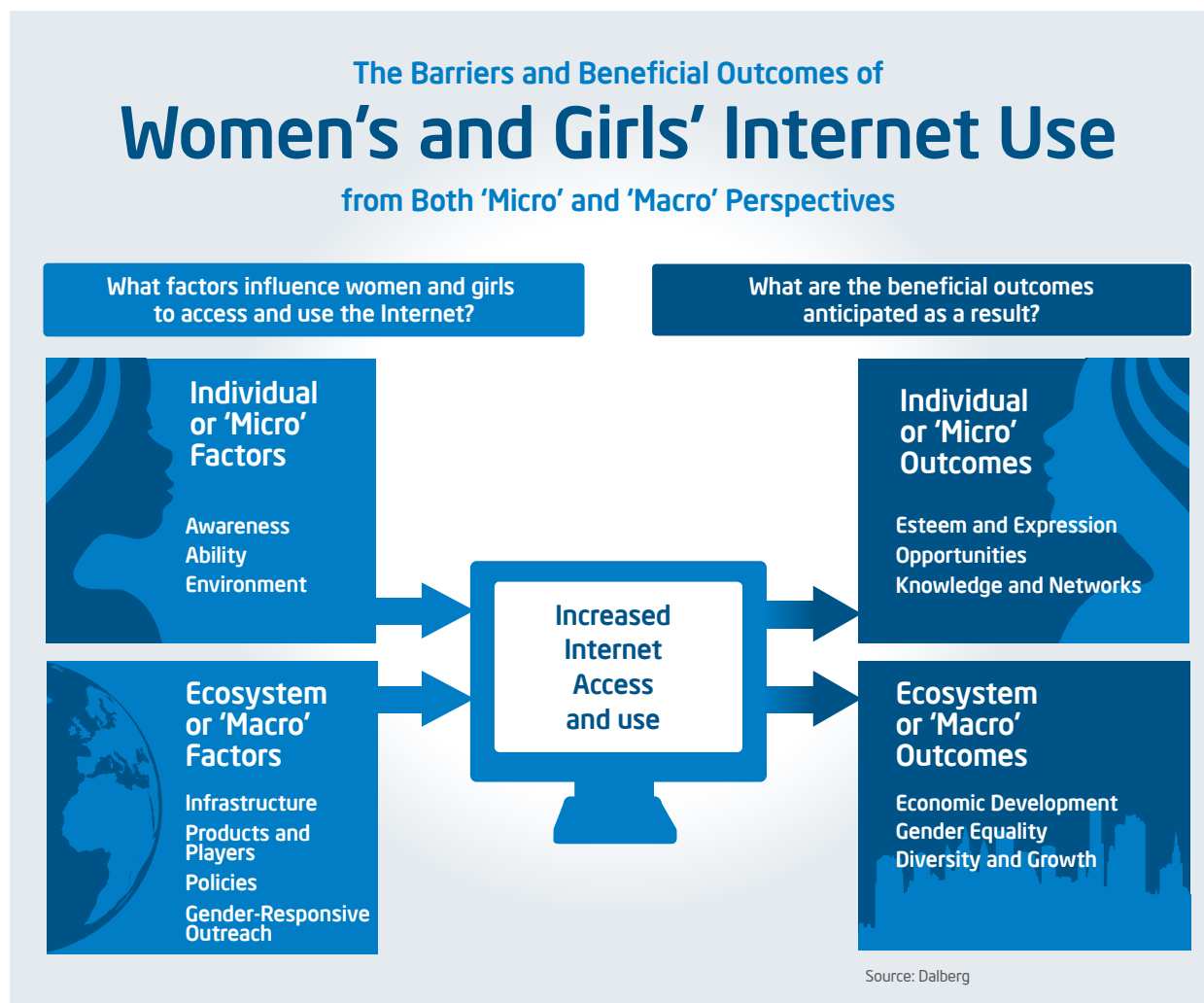
Figure 3: Global Internet access



There are an estimated 2.4 billion Internet users globally but access is not equally dispersed. Developing countries in particular lag behind.

Source: Internet World Stats, Internet usage and population statistics are as of June 30, 2012.

Figure 4: Framework for evaluating Internet access barriers and outcomes



Finally, this report highlights opportunities for a range of interested actors—including policymakers, the development community, and industry—to increase the number of women and girls who use the Internet across a variety of platforms. By providing a rich evidence base on women's and girls' use of the Internet, this report illuminates the challenges surrounding Internet access for women, highlights specific areas of opportunity, and intends to catalyze attention, action, and financing for these opportunities.

Our approach

This report provides a significant contribution towards understanding the factors affecting their access and use of the Internet, and the beneficial outcomes that can result. Two types of factors influence women's Internet access and use: individual factors, such as capability or household rules; and ecosystem factors, such as network infrastructure and gender-sensitive policies. Similarly, the benefits of women's Internet use accrue both on the micro or household level, such as increased self-esteem and income-generating opportunities; and on the macro level, with gains to the broader economy and greater gender equality. This report focuses on the individual factors and benefits that serve as the building blocks for the 'macro' level benefits.

This study also seeks to fill longstanding information gaps in our understanding of women's Internet usage by answering these questions:

1. How large is the global Internet gender gap?
2. How many women who lack Internet access *could* reasonably have it?
3. How many are already online but could be realizing greater benefits from Internet access than they do today?

4. What is the market opportunity of bringing these new users online?
5. If the potential of the Internet were harnessed for women, what would be the impact to GDP across developing countries?

The paucity of gender-disaggregated data on Internet use—that is, data on differences between women and men in terms of Internet access, use, and usages—complicated the analysis. Gender-disaggregated data on Internet use was available for only 31 countries out of the 144 classified as low or middle-income by the World Bank.

For this study, field research was conducted through the dissemination of more than 1,800 face-to-face and an additional 400 online surveys to women across four low and middle income countries on three continents (India, Mexico, Egypt and Uganda). Subsequently, approximately 10 to 20 shorter, follow up face-to-face interviews were conducted with female Internet users and non-users across our four focus countries, and a few selected male Internet users as well, in each of the four countries. More than 40 interviews were conducted with leaders of non-profit organizations in our focus countries, gender experts, IT industry experts, Internet usage data collectors, journalists, female online activists and academics. Third-party data sources such as the International Telecommunications Union's (ITU) statistical database, the World Bank statistical database, Facebook gender disaggregated country usage data courtesy of AllFacebookStats.com, the CIA World Factbook, and InterMedia AudienceScapes surveys were accessed along with other secondary sources to gather and validate demographic and Internet usage statistics. A detailed explanation of methodology is included in the Annex.

Interviews and surveys focused on four countries: Egypt, India, Mexico, and Uganda. Although these countries are characterized by the World Bank as low- or middle-income

countries, they were selected because they exhibit different income levels and distributions, cultural gender norms, and penetration of technology hardware and infrastructure. Each of the four countries is in a different geographical region, but they are not meant as stand-ins for the region. To underscore regional variations, this study presents some data from other countries in the same regions.

Within each country, this study looked closely at Internet use across five demographic segments of women that represent a blend of income, employment, age, and location (urban or rural). Recognizing that income differences can be a key driver of variation in Internet access and use, our analysis split respondents into five income categories, based on average income in their country.¹⁰ We intended to highlight the behavior and choices of the emerging middle class, which is in transition from living at the “base of the pyramid” (BoP), and that we associated with the average income of the country. However, for some comparisons it was necessary for the higher income categories to be grouped with the middle class, as when answers to survey questions did not show much difference between how the respondents in each category answered a given question.

The demographic segments are: (i) urban professional women in the emerging middle class or above; (ii) urban adolescent girls; (iii) urban women in the home, of middle class and above; (iv) urban lower-income women, also described as living at the base of the pyramid; and (v) rural women. Women in these demographic segments shared some Internet usage patterns. However, their attitudes toward the Internet varied, as did their means of access, barriers to access, and the reasons they used the Internet.

¹⁰ In Egypt, India, and Uganda, our analysis used the average income because median income was not available; we recognize that this skewed income groupings higher than the median. In Mexico, our analysis relied on median income, which was available.



Table 1 below demonstrates how these segments varied by length of time online and their use of different Internet platforms for access.

There are multiple platforms that are used to access the Internet. This report looks at traditional platforms and methods of Internet access, such as desktops using

broadband or even dial-up connections, as well as emerging methods: feature phones with Internet access enabled, as well as smartphones and tablets with 3G and wifi capabilities. For simplicity, throughout this report the term 'computer' refers to both desktops and laptops, while 'mobile' refers to feature phones as well as smartphones.

Table 1: Selected usage and attitude characteristics across demographic segments

Usage characteristics	Urban professional women	Urban adolescent girls	Urban women in the home	Urban women at the BoP	Rural women
Recent users (within 1 year)	4%	22%	13%	16%	Not available through survey results
Long-term users (10 years or more)	23%	2%	10%	2%	
Multiplatform users (computers and mobiles)	56%	47%	32%	46%	
Computer only Internet users	36%	48%	61%	49%	
Mobile only Internet users	8%	5%	7%	5%	
Those who say Internet is "essential" to their daily life	41%	37%	35%	29%	



Sizing the opportunity

There are 600 million women and girls in developing countries using the Internet today, which is nearly 25 percent fewer than men. We believe the number of women online can be doubled within three years, reaching 1.2 billion, due to the projected growth rate of Internet adoption, and assuming action taken by public and private sector actors would accelerate adoption and reduce the gender gap by a further 40 percent. Doubling the number of women and girls online would generate an estimated additional USD 13 to USD 18 billion in GDP across developing countries. It would unleash a market of new platform sales and network access amounting to an estimated USD 50 to USD 70 billion.¹¹ However, these aggregated figures—like all global figures—mask a good deal of nuance and variation among countries. Understanding variations between and within countries is critical to crafting effective interventions to reduce the gender gap and capture the nascent market opportunity.

In examining the landscape of Internet access and use, there are wide and sometimes surprising variations even among countries in the same region or of similar incomes. For example, in Portugal—a European Union country with per-capita income of about USD 23,000—only 55 percent of the adult population has Internet access, while the Internet access rate in developing countries such as Latvia rivals that of some higher income countries.

Variation among countries and within regions signals that Internet penetration levels are not predetermined, and that significant increases in the share of women and girls online could be achieved. The share of women online could even exceed that of men, as is already the case in a handful of developing countries such as Honduras, Guyana, and Thailand. Moreover, increasing levels of access alone would not capture the power of the Internet for women in developing countries. There is also an opportunity to

increase and deepen usage among existing, but limited, users.

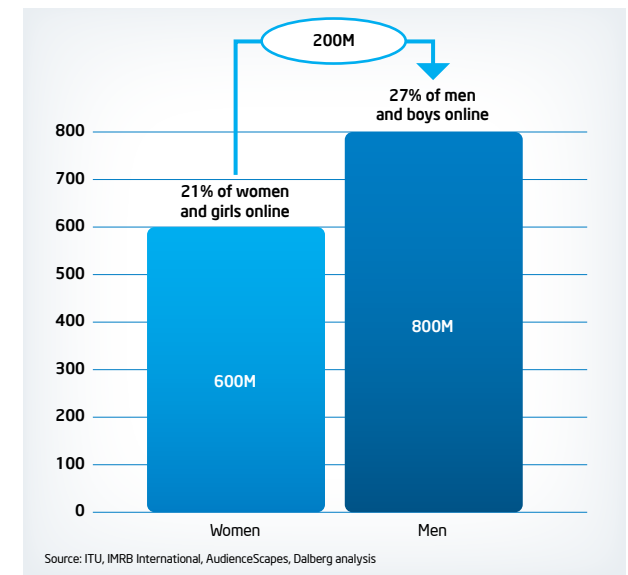
These opportunities lead to a wealth of benefits to women and girls, which are discussed in more detail in the section *How the Internet benefits women and beyond*. They also result in economic benefits, which we calculate at two levels: the market value of increased use of the Internet, and the impact to GDP resulting from the ensuing benefits accrued to women and girls. These are discussed later in this section.

Sizing the Internet gender gap

We estimate that 21 percent of women and girls in developing countries have access to the Internet, while 27 percent of men have access. This represents 600 million women and girls online—200 million fewer than men and boys. The gap between male and female access levels

means that 23 percent fewer women than men are online in the developing world.¹² For the benefit of comparison, according to ITU data, in 2009 69 percent of women in the United States had access to the Internet while 68 percent of men did. This suggests women in the United States are not only more than three times more likely than women in the developing world to have Internet access, but they are actually more likely than their male peers in the United States to have Internet access, representing a stark difference to the situation of most women in the developing world.

Figure 5: The Internet gender gap today



¹¹ Our model estimates figures of USD 55 to USD 64 billion, which have been rounded to account for uncertainty and frequency of changes in pricing for platforms and network access.

¹² The 23 percent figure refers to the size of the point difference for Internet access penetration rates between women and men, divided by the men's rate of access.

Table 2: The Internet gender gap across regions

	East Asia & Pacific	South Asia	Sub-Saharan Africa	Europe & Central Asia	Latin America & the Caribbean	Middle East & North Africa
Women's and girls' Internet access level	29%	8%	9%	35%	36%	18%
Men's and boys' Internet access level	37%	11%	16%	49%	40%	28%
Gender gap (weighted)	20%	33%	43%	29%	10%	34%
Global gender gap (144 developing countries)	23%					

To derive this estimate of the Internet gender gap in developing countries, we built a model that is anchored in ITU¹³ gender-disaggregated data on Internet use for 31 countries. The model also incorporates gender-disaggregated data on Facebook users for more than 130 countries.¹⁴ To account for lower levels of access

in countries with large rural populations, we also used data from 27 countries that is gender-disaggregated and includes comparative data on rural and urban access, as well as data from smaller-scale surveys and research studies. A detailed explanation of the model and its regression analysis is included in the Annex.

Table 3: Female Internet access rates by focus country and region

	Egypt (Middle East & North Africa)	India (South Asia)	Mexico (Latin America & the Caribbean)	Uganda (Sub-Saharan Africa)
Women's and girls' Internet penetration	32%	8%	34%	9%
Regional average	18%	8%	36%	9%
Regional low	4% (Iraq)	3% (Afghanistan)	7% (Haiti)	< 1% (Sierra Leone)
Regional high	45% (West Bank/Palestine)	25% (Maldives)	82% (Antigua and Barbuda)	40% (Seychelles)

Levels of Internet access for women and girls varied widely among our four focus countries of Egypt, India, Mexico, and Uganda. We calculated that 32 percent of Egyptian women and 34 percent of Mexican women were online; in India and Uganda, rates of female Internet access were much lower, 8 percent and 9 percent respectively. Egyptian women enjoyed significantly higher rates of access than other women in the Middle East and North Africa, while women's access levels in India, Mexico, and Uganda were roughly on par with regional levels.

The differences in women's access levels among our four focus countries illustrate the importance of enabling environments that allow women and girls to get online. As table 4 shows, these four countries also demonstrate wide variability along other factors relevant to women and girls' Internet use, such as living in an urban area, country income level, the presence of broad gender disparities, and Internet maturity. Countries with large rural populations tend to have less penetration, because rural areas are remote, sparsely populated, and often marginalized, making the spread of Internet access infrastructure—broadband cables, cell phone towers—less economically effective relative to urban areas. Countries with low incomes are less likely to be able to invest in critical Internet enablers such as education and infrastructure. In countries with marked gender disparities in education, income, and political power, cultural norms frequently restrict women's online access. And the longer a country has had a baseline of Internet penetration, the greater the level of overall access and usage. While these factors—the rural population, date of Internet introduction, national income, and gender norms—are important, a multitude of other forces are at play. These include market factors such as investment, regulation, and competition, as well as political factors, such as conflict and stability.

¹³ International Telecommunications Union (www.itu.int).

¹⁴ [Allfacebookstats.com](https://www.facebook.com/facebookstats)



Table 4: Selected factors affecting female Internet penetration levels

	Comment	Egypt (Middle East & North Africa)	India (South Asia)	Mexico (Latin America & the Caribbean)	Uganda (Sub-Saharan Africa)
Women's and girls' Internet penetration		32%	8%	34%	9%
% rural population	Rural areas have lower women's access	57%	69%	22%	84%
Gross National Income (GNI) per capita	Higher-income countries can invest in infrastructure and enablers like education	USD 6,160	USD 3,620	USD 15,060	USD 1,320
Gender gap index ¹⁵	Cultural norms are a major barrier	#126 out of 135	#105 out of 135	#84 out of 135	#28 out of 135
Year Internet penetration exceeded 1% ¹⁶	Internet maturity affects awareness and usage patterns	2002	2002	1998	2005

¹⁵ World Economic Forum Gender Gap Index 2012. The Index quantifies gender-based disparities based on economic, political, education, and health-based criteria for 135 countries and ranks them accordingly. The lower the ranking, the greater the gender disparity.

¹⁶ World Bank Databank.

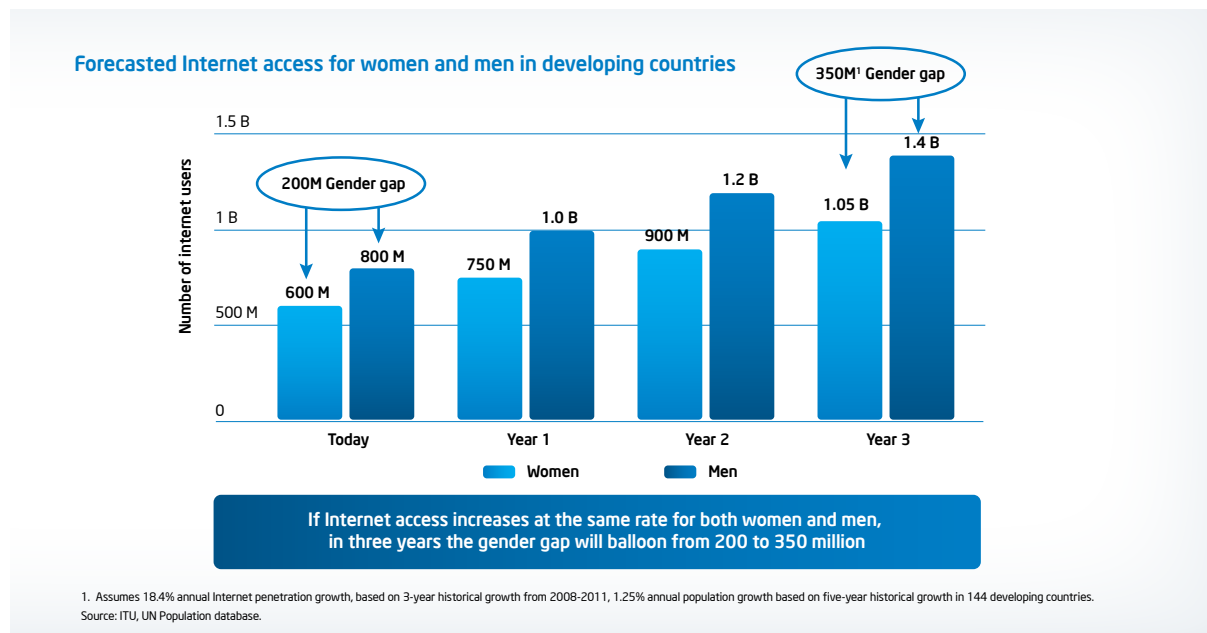
The table above shows differences in our focus countries' enabling environments:

- In **Egypt**, women face greater gender disparities than in the other countries in education, economic development, and other areas which contribute to overall gender inequality. In addition, the country achieved a baseline of Internet access only in 2002. Fifty-seven percent of its population lives in rural areas, and its per capita income is slightly more than USD 6,000. Despite these macro barriers, Egyptian women are likelier to have Internet access than women in India or Uganda.
- **India** achieved a baseline of Internet access when Egypt did, in 2002, but its per capita income is much

lower, at about USD 3,600, and its rural population greater, nearly 70 percent. Gender disparities, as defined by the gender gap index, are nearly as pronounced as in Egypt. Indian women are less likely than women in any of our focus countries to have Internet access.

- **Mexico** was the first country in our focus group to achieve a baseline of access, in 1998, and among them, it has the highest per-capita income and smallest proportion of rural residents. Although Mexican women are the most likely of our focus countries to have Internet access, they still face significant gender disparities.
- Although **Uganda** achieved a baseline of access later

Figure 6: The widening gender gap



than our other focus countries, and has the lowest per capita income and greatest proportion of rural residents, Ugandan women face fewer gender disparities than other women. Over 9 percent of Ugandan women have Internet access, a higher percentage than in India.

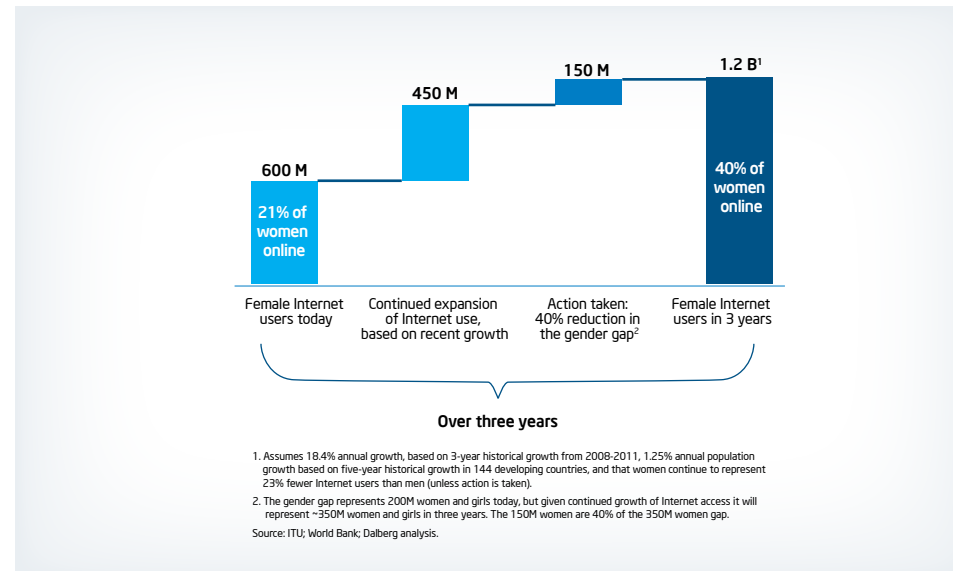
The calculations for the Internet gender gap above are based on estimates for usage today. As more of the world's population goes online, the number of women represented by the Internet gender gap will increase as long as no action is taken. Within three years, the gap will increase from 200 million today to 350 million women.

An ambitious but achievable target: 1.2 billion women online in three years

According to the ITU, between 2009 and 2011 Internet penetration grew at an average of more than 18 percent per year in developing countries worldwide. If this trend continues, by 2014 Internet penetration in developing countries will reach above 40 percent. We acknowledge that penetration growth may slow, as the people offline are increasingly those that are the hardest to reach. Conversely, improvement of ICT infrastructure, the proliferation of Internet access platforms, and falling costs of devices and associated services could buoy penetration growth. Taking these and other variables into account,



Figure 7: 1.2 billion women and girls online within three years



we believe that if action is taken to implement the recommendations suggested in this study, our target of more than 1.2 billion women online in developing countries within three years can be reached.

Reaching our target of 1.2 billion women in three years—an additional 600 million over those online today—would necessitate continued rapid adoption of the Internet as well as a concerted effort to reduce the gender gap. The current annual growth rate in Internet access of more than 18 percent would bring the first 450 million women online over three years. Over time this would certainly include a larger share of those now under-represented among users today, such as lower-income women and those living in rural areas.

The remaining 150 million women and girls needed to reach our additive 600 million target could be achieved

through a 40 percent reduction in the Internet gender gap. Though the gender gap represents 200 million women today, as Internet use expands overall the number of women represented by the gender gap widens. In three years, if women continue to be 23 percent less likely to be online than men, the gap would translate to 350 million women and girls. Taking concerted action aimed at addressing gender-specific barriers to Internet access and reducing this gap by 40 percent in three years would yield 150 million additional women and girls online.

The goal of doubling the number of women online in three years is both ambitious and achievable. As evidence that this goal is within our grasp, consider how quickly women have been increasing their Internet access in recent years. We can look also at those developing countries that already have substantial shares of their women and

Table 5: Female Internet penetration today, and targets based on group benchmarks

	Low income countries (36)	Lower-middle income countries (54)	Upper-middle income countries (54)
Women's and girls' Internet penetration today	4%	13%	34%
Lowest Internet penetration per group	<1%	<1%	4%
Highest Internet penetration per group	19%	46%	81%
Benchmark: Average Internet penetration achieved by the top 10 countries	10%	35%	57%
Additional women online if all countries in the group reach the benchmark ¹⁷	25 million	275 million	300 million
TOTAL: Number of additional women online if all countries reach the benchmark for women's Internet access	600 million		

girls online. These countries can serve as 'benchmarks' for the levels of access to which all developing countries can, and should, strive. In fact, if we establish a benchmark for countries based on their income,¹⁸ as shown in the table above we can see that having all developing countries reach these benchmarks would itself result in another 600 million women online. This comparison demonstrates that some developing countries already have the pieces in place to enable women's and girls' access to the Internet. The next step is to support the remaining countries to reach this same goal.

Market opportunity

By quantifying the economic value to both the private sector and society more broadly of connecting an additional 600 million women in developing countries to

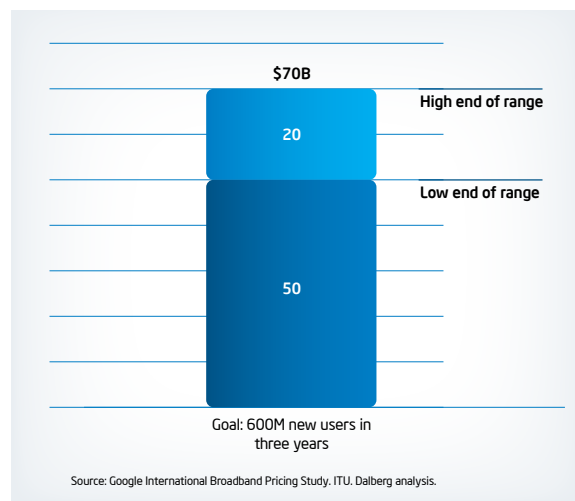
the Internet, we hope to demonstrate the attractiveness of targeting underserved women and girls as consumers of Internet products and services. We calculated the market opportunity by measuring the value of likely purchases of Internet-accessible devices and network plans that would accompany new Internet users. The calculation accounts for significant sharing of Internet access points in developing countries—for example, through Internet cafes or even shared computers in a household. We do not assume that every new user will own her own device, whether computer or mobile phone. To account for this sharing, we applied the current ratio of Internet subscribers to the number of Internet users in developing countries to estimate the appropriate number of new devices and network plans needed.¹⁹

¹⁷ Numbers are rounded for simplicity. The calculated total is 578 million women and girls.

¹⁸ Per capita Gross National Income (GNI).

¹⁹ While future use of computers in developing countries may include more sharing of devices than is true today, use of the mobile Internet has been increasing dramatically and sharing is less common for Internet access on a mobile platform. In our survey of Internet users, 51% noted that their household owns a desktop and 91% of households own a mobile phone.

Figure 8: Market opportunity



To remain conservative and to account for the likelihood of continued price declines, in all cases we chose the lowest-cost devices and service plans for our model. Furthermore, the market opportunity analysis is based entirely on assumptions about new Internet users; though increasing usage for women who are already online can yield market benefits through, for example, increased data purchases, there was not sufficiently detailed data available to provide an accurate estimate of this added market opportunity.

We estimate the total opportunity of connecting an additional 600 million women and girls to the Internet to be between USD 50 and USD 70 billion. This includes the benefit resulting from a 40 percent reduction in the size of the gender gap, estimated at USD 10 to USD 20 billion, and the USD 40 to USD 50 billion market opportunity from the women and girls who are already poised to come online over the next three years. For simplicity and to avoid implying a false degree of specificity for these modeled calculations, throughout the document these and other figures are rounded.

Sizing the effects on GDP

For women in developing countries, the Internet can be a gateway to a host of tangible benefits, such as job and education opportunities, and to less tangible benefits, such as confidence, self esteem, and empowerment. But there is also an economic opportunity at stake. As increasingly recognized in the global development community, women are a crucial lever for a range of development goals. According to Plan UK, "an extra year of education increases a girls' income by 10 to 20 percent and is a significant step on the road to breaking the cycle of poverty. Educated girls mean the chance of a better life for themselves and their children, a more prosperous community, a better workforce, and a wealthier nation."²⁰ Women are likely to leverage the

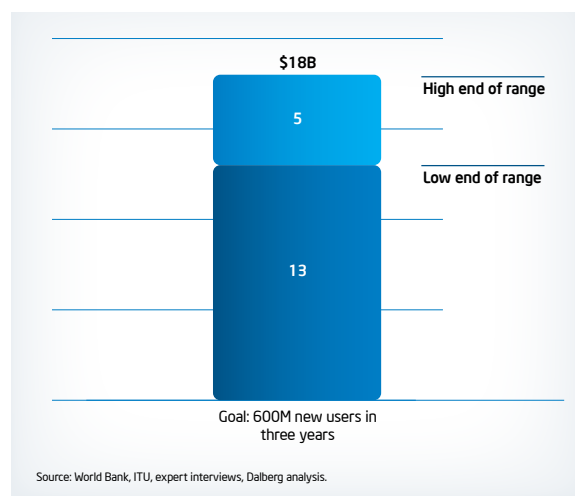
increased education, employment, and even empowerment they realize through Internet access to produce gains for their families, communities, and nations. Expanding Internet access for the target 600 million women and girls would also translate into increased GDP for the countries in which they live.

To calculate the effects of increased Internet access for women and girls on GDP, we built upon an econometrics formula used by the World Bank to quantify the relationship between ICT and GDP in developing countries.²¹ A full explanation of our methodology is in the Annex.

Reaching the target of an additional 600 million additional women online within three years would result in a GDP increase of between USD 13 to USD 18 billion. Approximately USD 9 to USD 13 billion results from organic growth to women's internet penetration over those three years, and a further USD 4 to USD 5 billion from reductions to the size of the gender gap.

The remainder of this report examines the benefits of Internet access for women and girls in developing countries, the barriers they face in gaining Internet access, and the ways in which they are using the Internet. It is based largely on three sources of data: field research, in-depth interviews and third-party secondary data.

Figure 9: GDP growth opportunity



²⁰ Plan UK. (2009) Because I am a Girl. The State of the World's Girls 2009. Girls in the Global Economy: Adding it All Up, p. 11. London, Plan UK.

²¹ C. Zhen-Wei Qiang et al., Information and Communications for Development 2009: Extending Reach and Increasing Impact, World Bank (2009). The World Bank model was designed to account for both women and men, so our model incorporates ranges to account for potential differences in assessing the impact of women users only.



For women in developing countries, the Internet can be a gateway to a host of tangible benefits, such as job and education opportunities, and to less tangible benefits, such as confidence, self esteem, and empowerment.

How the Internet benefits women and beyond

For women around the world, the Internet offers potentially transformative benefits. Respondents to our survey derived a myriad of concrete benefits from the Internet, which they used for their studies, to find educational and job opportunities, and to access health and other services. Some reported that the Internet saved them time and money through online shopping and services. Others noted the value of connections they forged or maintained through social networks.

The Internet also provided users more subtle but profound benefits related to empowerment: confidence, a sense of connection and participation, even a feeling of liberation. Once achieved, all these benefits to individual women and

girls create positive outcomes for their communities and countries, through their impact on economic development, gender equality, and the growth that can result from a greater diversity of ideas and political participation.

Figure 10: Beneficial outcomes that can result from women and girls online



Gaining these benefits and outcomes starts with women's online facility and quality access, which promote deeper user engagement online.

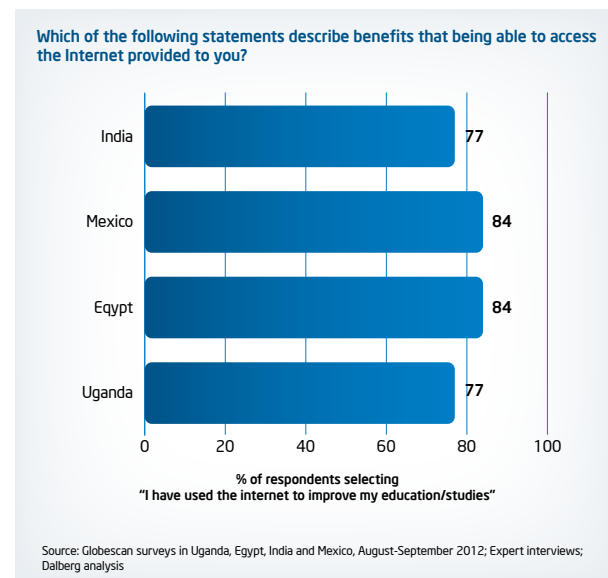
Internet access provides concrete benefits in education and job opportunities

Access to the Internet can facilitate specific ends. The vast majority of respondents to our survey who use the Internet said they had done so to further their education. Many others reported they had used the Internet to seek out information on health and government services, or to communicate with customers or suppliers. They reported that Internet access had made their lives easier and more efficient, and that at times—including with online shopping and overseas communication—it provided significant cost-savings. Some noted that as more of the world's business and communications shift online, women who do not use the Internet face the risk of getting left further behind.

"The Internet is like having a library in your own home," declared one of the respondents to our online survey, a woman from Veracruz state in Mexico. "If you know how to use it, you can find anything from a simple recipe to how to build a robot." Indeed, the wealth of information the Internet offers has opened up new worlds to the women users we surveyed.



Figure 11: Increased education benefits by country



The information users reported seeking most often was related to education, including doing research related to their studies, finding scholarships and grants, and doing online coursework. (A vast majority of our survey respondents reported at least an elementary school education; women and girls with no education at all would likely have different information needs.) In each of the four focus countries of this report, 77 to 84 percent of users reported using the Internet to further her education. "You can find dissertations from other countries or online books that are hard to find without access to the Internet," noted one young woman with a post-graduate degree, in the Yucatan. Others reported improvement in grades, using online resources to help their children with homework, and supplementing lesson plans with material from the Internet. Some expressed excitement about the growing availability of e-books.

Most users surveyed also reported using the Internet to research available health services—and among even non-users, health information was cited as a key benefit of getting online. Internet access provides women a private database of health resources, especially meaningful to women with infrequent access to medical professionals, or who do not feel comfortable discussing sensitive topics with them. "Some things are difficult to ask someone—but if we surf, it becomes easy," answered one respondent, in India.

Users also reported using the Internet to access government programs or financial services. For example, in India, 49 percent of women sought information on accessing government services and 54 percent sought information on financial services and banking. There was also a great deal of interest among non-users in doing so, especially in Mexico. But a majority of Indian users reported using the Internet for banking or information on

financial services, and many in Mexico and India cited the convenience of booking travel tickets online. In India, the Indian Railways has allowed online booking since August 2002,²² saving the Internet users countless and often frustrating hours in ticketing queues.

Not only are such e-services more convenient, they often offer direct cost-savings. "Many services are now provided on the Internet, such as online banking, job-seeking, and applications. Often the services are not available off line, or cost more," said an older user from West Bengal, who accesses the Internet daily on a desktop. Users also reported that the Internet has vastly simplified processes whose formalities once took hours, such as transferring documents over long distances, paying bills, and applying for jobs and schooling. Similarly, email, Skype, and chat functions drastically cut down on long distance bills, allowing users to stay in touch with family and friends abroad at low cost. Other users highlighted the expanded choice and cost-savings provided by online shopping. They reported that they had better access to "innovative" products that were either inaccessible locally or cost more.

Users also cited the Internet's benefits for work and generating income. Nearly 60 percent of Indian users reported using the Internet to search and apply for jobs, and 38 percent of Mexican users reported that they had used the Internet to generate additional income. One woman in Tamil Nadu noted that the Internet had provided her an opportunity for "freelancing... all over the world." Many users—between 38 to 60 percent over all focus countries—reported that they had used the Internet to expand their career networks.

As Table 6 indicates, there is a good deal of variation in the numbers of Internet users reporting employment-related and income-generation benefits. Some of this variation is likely linked to the level of women's participation in the

formal economy. According to the World Bank, for instance, in Egypt, only 24 percent of women participate in the labor force, while in Uganda the figure is 76 percent.²³ It is not surprising, therefore, that Egyptian women Internet users would report using the Internet less for job-related ends than Ugandan women.

Whether women work outside the home or not, Internet skills themselves open up job opportunities to them. Use of the Internet provides direct benefits to employment by helping women search for jobs or expand networks to improve job prospects. But even beyond that, the ability to operate a computer and to maneuver the Internet with confidence are increasingly critical to qualify for jobs. Mastery of these skills boosts women’s overall confidence and provides further information on work opportunities. Online access “puts [women] leaps and bounds ahead of where they were in terms of finding formal employment... and gives them greater confidence to seek out opportunities they otherwise wouldn’t,” says Emilie Reiser, who works with low-income advocates against gender-based violence in Haiti through Digital Democracy.

While Internet access can empower women, our research shows that the inverse also increasingly holds: Women without access to the Internet risk getting left further behind. As more of the world’s communications and

business migrate online, women who cannot or do not use the Internet risk deeper isolation, including missed opportunities for education, jobs and career advancement. Akрати Saroj, a college student in New Delhi, reported: “I wanted to learn computers and the Internet because I wanted a job. I went for an interview and there they asked me if I knew how to work on a computer. So it’s a mandatory requirement.”

Some advocates even worry that restrictive cultural stereotypes and assumptions about women and technology, coupled with the rapid pace of change, point to a widening digital gender divide, instead of a shrinking one. “The growing use of the Internet is increasing transactions in the world where women are being left out,” argues Anita Gurumurthy, executive director of IT for Change, an Indian non-governmental organization that does policy research and advocacy around gender and the Internet. An Indian user put the idea rather more bluntly: “Without the Internet, we are blind fools.”

²² Indian Railways Fan Club (<http://www.irfca.org/faq/faq-history7.html>).
²³ World Bank Development Indicators, 2007-2011, available at <http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS>

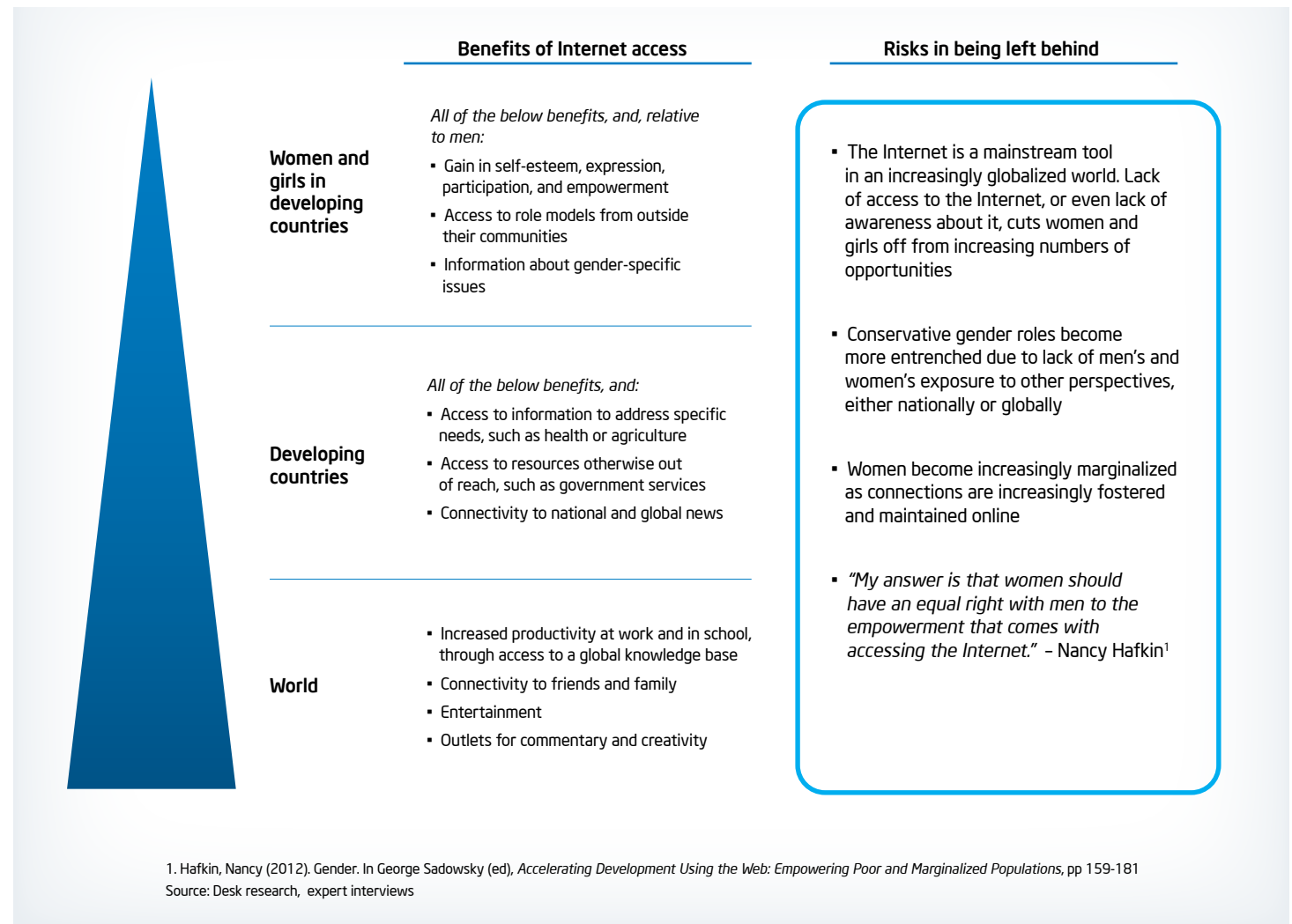
Women without access to the Internet risk getting left further behind. As more of the world’s communications and business migrate online, women who cannot or do not use the Internet risk deeper isolation, including missed opportunities for education, jobs and career advancement.

Nancy Hafkin, PhD
Senior Associate
Women in Global Science and Technology
(WISAT)

Table 6: Employment-related benefits of Internet use cited by country

Benefit Cited	Country			
	India	Mexico	Egypt	Uganda
I have used it to search for a job	59%	40%	25%	47%
It has provided greater opportunities by expanding my networks	59%	39%	38%	60%
I have earned additional income	32%	38%	5%	33%

Figure 12: Women face even greater risks when they lag in Internet access



Is access to the Internet a human right?

In recent years, countries such as Estonia, Finland and France have enacted policies or issued judgments that state a right to Internet access. Some scholars agree, arguing that one or more of Articles 18, 19, and 20 of the Universal Declaration of Human Rights (on the freedoms of conscience, expression, and association²⁴) imply a right to Internet access.²⁵ As social media has enabled groups to associate and organize online—through Facebook, Twitter, and YouTube, for instance—some governments have periodically restricted or cut off access to such sites, or, like China, have put up firewalls that block certain sites. The United Nations has not declared Internet access a human right, but a June 2012 resolution affirmed the right of expression applies online. (The resolution is not binding, it was approved by all 47 members of the Human Rights Council (HRC) of the UN.)

Whether or not Internet access should be considered a human right, scholars generally agree that it can facilitate the achievement of human rights. “[T]echnology is an enabler of rights, not a right itself,” argues Vint Cerf, an engineer who is considered one of the fathers of the Internet.²⁶ Others in the field characterize communications technology as a “gateway” to other rights—including civil rights the Internet implicates, such as freedom of expression and association, as well as social and economic rights. Emily Jacobi, director of the NGO Digital Democracy, says that the Internet allows the Haitian women her organization works with to “advocate and have an active voice in advocating for their rights”—including the rights to housing, clean water, education, and freedom from gender discrimination.

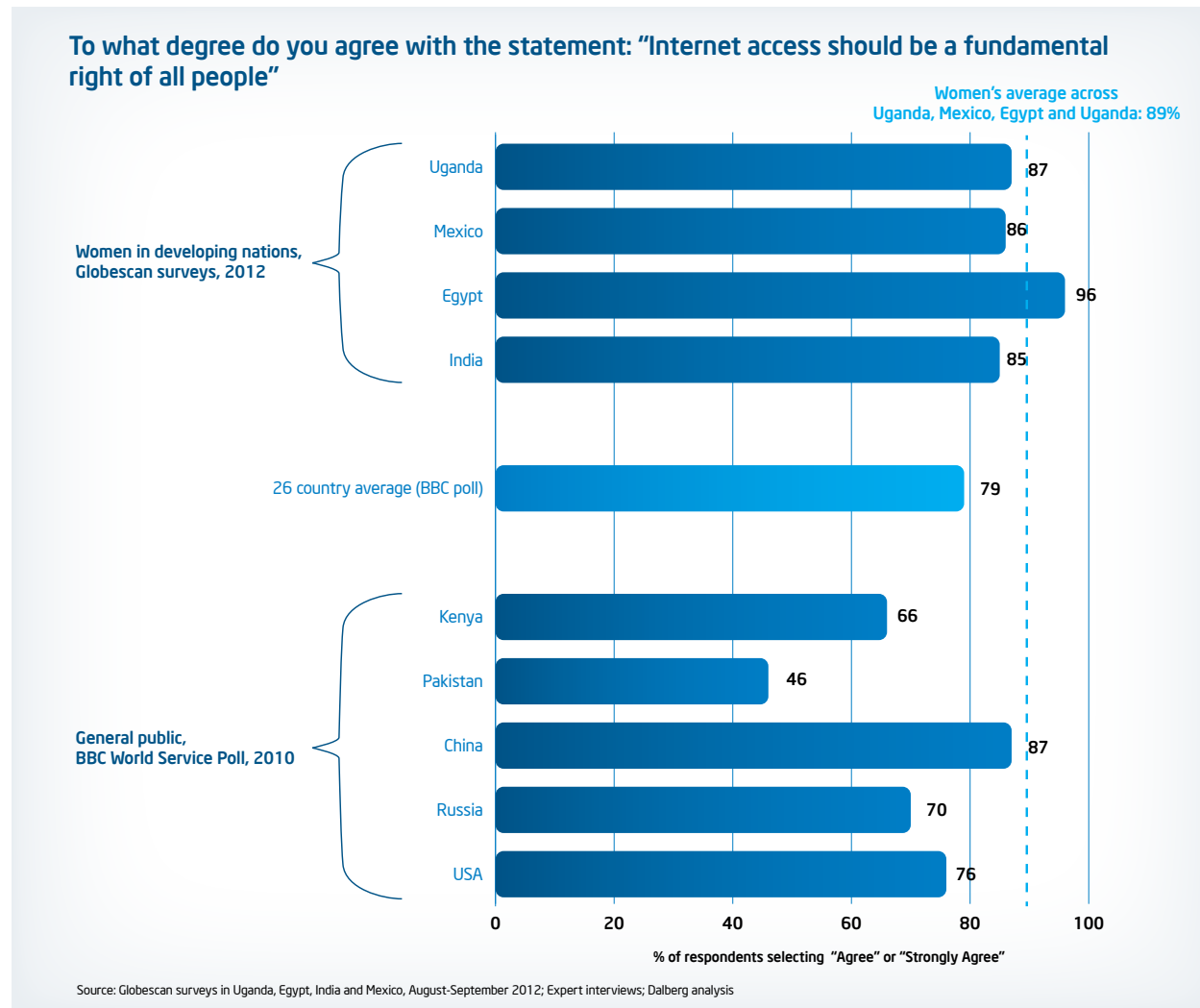
The vast majority of women Internet users surveyed in our report agree with the statement “Access to the Internet should be a fundamental right of all people.” The percentage agreeing ranged from 85 percent, in India, to 96 percent, in Egypt. A BBC World Service poll of the general public—including men, and including people who do not use the Internet—showed somewhat lower proportions supporting a fundamental right to Internet access. The surveys are not strictly comparable, in part because the BBC poll was conducted more than two years ago, and in different countries. However, women’s greater support for a fundamental right to access may suggest that they gain greater empowerment benefits than men do from online access.

²⁴ Article 18: “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.” Article 19: “Everyone has the right to freedom of peaceful assembly and association”.

²⁵ Gurumurthy, APC cite.

²⁶ V. Cerf, “Internet Access is Not a Human Right,” *New York Times*, Jan. 4, 2012, available at http://www.nytimes.com/2012/01/05/opinion/Internet-access-is-not-a-human-right.html?_r=0

Figure 13: Internet access as a fundamental right



Internet access can be a gateway to empowerment

Internet use also provides more subtle, longer-term benefits around empowerment, such as increased confidence, external validation, and expression. Empowerment benefits flow from the fact that the Internet permits information, ideas, and perspectives to travel with greater ease and to and from once-isolated areas. Social networking allows women to enlarge their communities and to retain their old ones. Online newspapers, blogs, and associations expose women to other narratives and ideas about gender roles. The Internet also provides a platform for women and girls to make their voices heard—to express their viewpoints, share their experiences, and engage in global conversations.

For many women in the developing world, the Internet serves as a gateway to benefits clustered around empowerment. "Empowerment" connotes a variety of ideas, including self-confidence, autonomy, and the capacity to alter the structures that govern one's situation. The World Bank has described empowerment as "a multi-dimensional, long-term process with two essential components: (i) resources that include not only financial and productive assets, but opportunities, capabilities, social networks and other environmental factors, and (ii) agency, or the ability to act in one's own best interest."²⁷ For the purposes of this study, we define "empowerment" as feeling and exerting control over one's life, and identifying and taking advantage of opportunities for self-improvement.

Multiple studies over the years have shown that formal skills training—be it in agricultural production or ICT applications—helps women facing severe gender or class discrimination improve their self-esteem. Training helps women overcome the intimidation that they sometimes feel in the face of new technology, and as they master

ICT skills, women gain confidence in their ability to take on other challenges. Formal training seems to be especially empowering for women, who tend to adopt new technology less readily than men. A study of recent Muslim graduates of a year-long ICT course in Mumbai found that it was a “key gender equalizer” because it boosted women’s self-confidence and opened up the possibility of generating an independent income. Such psychological effects were not observed in male graduates.²⁸ A self-evaluation of users in India’s Sitakund ICT centre similarly found that every woman reported an increase in self-confidence; none of the men did.²⁹ In examples ranging from a woman in ICT project in Afghanistan to indigenous women in Bolivia using computers, women and girls consistently reported improvement in self-esteem and “sense of self worth.”³⁰

One of the ways the Internet can empower women is by providing them an opportunity to connect with people outside their communities, which can allow them to see themselves and their lives in new ways. “Exposure to people outside their community, and their ideas, tells women: your background is not the prime factor in determining what your possibilities are,” says Ms. Reiser, the Digital Democracy program manager who works with low-income women in Haiti. Many of the women she works with have never accessed the Internet. When they encounter people outside their communities on Facebook, their blog, and other social media sites, they start to see that they are not defined by their poverty, she says.

²⁷ Malhotra, A. & Schuler, S.R. 2005, “Women’s Empowerment as a Variable in International Development,” in *Measuring Empowerment: Cross-Disciplinary Perspectives*, D. Narayan, ed., The World Bank, Washington D.C., pp. 71-88.

²⁸ F. Khan, R. Ghadially, Gender-differentiated Impact on Minority Youth of Basic Computer Education in Mumbai City. *Gender Technology and Development* July 2009 vol. 13 no. 2 245-269.

²⁹ D. Slater, J. Tacchi, *ICT Innovations in Poverty Reduction*, UNESCO, 2004.

³⁰ G. Sadowsky, ed., *Accelerating Development Using the Web: Empowering Poor and Marginalized Populations*, World Wide Web Foundation, 2012. N. Hafkin, Chapter 11, pp. 159-181.



Photo credit: AFP photo 2012
Egyptian woman uses her tablet to video protesters in
Cairo's landmark Tahrir Square on June 4, 2012.

Case Study:

Feminist Approach to Technology (FAT) brings technology training, and empowerment, to women in India³¹



Photo credit: Feminist Approach to Technology

Throughout much of India, technology is still viewed as the exclusive province of men. Opportunities for women—and particularly young women—to experiment with technology and Internet use can be hard to find.

Gayatri Buragohain was all too familiar with the challenges posed by culture and social expectations to women hoping to use technology. Though trained as an engineer, she still found herself contending with male family members restricting her access to the household computer. “They thought that if I touched it, something would go wrong,” she recounts.

Gayatri decided to do something about the fear of technology she saw being instilled in women at even



an early age. In 2007 she founded Feminist Approach to Technology (FAT) in New Delhi, India, with the goal of filling the gap in technical awareness for women by increasing their rights and supporting broader career choices through access to technical resources. FAT hosts a community tech center in Lajpat Nagar with a female-

only staff to help impart skills while providing a safe space for underprivileged girls to learn and experiment with computers and the Internet.

For Gayatri, the biggest hurdle to women’s Internet use and access is not cost, “but cultural stigmas.” She says, “In many cases the household situation is that the woman’s number-one role is to take care of the family, so why does she need to use the Internet?” At FAT, girls can seek the guidance and training they want from staff, but they are also encouraged to experiment with the Internet and learn about things they are interested in or want to pursue. “It is the rule that in many families,” says Gayatri, “that after turning 18, a girl’s job is to get married, so why would she continue in school? After our program, girls realize that it is possible to go to college and even get scholarships. Out of our first batch of girls, 18 decided to go back to college.”

While Gayatri believes putting Internet in the hands of women is a first step, she recognizes the services her organization can provide are only a piece of the larger puzzle, and strongly believes that more is needed to have a lasting impact. “You can’t just put technology in the hands of girls and expect it to empower them—it requires a long-term investment in teaching them how to realize the benefits.” When asked who she thinks needs to play a larger role in changing how society and women view women’s relationship with technology, she responds that schools and the media have a large role to play. “They have much longer term relationships with girls and boys and could do so much to change cultural perceptions of women using the Internet.”

³¹ Feminist Approach to Technology website. Dalberg interviews with Gayatri Buragohain, Founder and Executive Director of Feminist Approach to Technology.

User Profile:

Translating online skills to offline confidence



Ravina Gurung at the FAT technology training center
Photo credit: Feminist Approach to Technology

Ravina Gurung, Age 18
Delhi, India

"Because of the Internet, I feel I am more confident. When I had to ask about something, I was reluctant to ask strangers and that was difficult. Now I don't need to ask anyone. I can just go online and get the information."

Ravina Gurung knew that she'd need ICT skills to get a job when she graduated from university. But her parents couldn't afford a computer or Internet connection, and she didn't understand what the Internet was. When a friend told her about a nearby technology training center called Feminist Approach to Technology (FAT), she decided to come and try to understand the basics of computers and the Internet. "I was a bit scared about whether I [would] be able to learn," she says.

That was two years ago. Now Ravina spends four to five hours per day on the Internet. She uses it to search for information and to indulge her photography habit with Photoshop. She chats with friends online and sends them free SMS's. When she needs to travel around the city, she searches out maps and timetables, which saves her time and prevents her from getting lost. She uses online translation software to decipher English words whose meaning is unfamiliar. All of this has translated into a greater sense of control over what she can accomplish on her own. "Because of the Internet, I feel I am more confident. When I had to ask about something, I was reluctant to ask strangers and that was difficult. Now I don't need to ask anyone. I can just go online and get the information."

But knowing how to use the technology and access information has also increased her sense of self-confidence offline, in the real world.

"I used to feel scared earlier to even go out on my own," Ravina says. "After I joined FAT, I gained confidence that I can go out and talk to people."

The second-year university student also uses the Internet on her phone—mostly to chat on Facebook and to download music—but "everything is very small. On the PC, it's [large], and hence it's better." Still, she says, if she had unlimited Internet on her phone, "I'll use it 24 hours" per day!

When asked what should be done to get more girls and women online, Ravina draws on her own experience. She didn't understand what the Internet was or what it was capable of until she learned how to use it at FAT. "First, they need to know," she says. "They need to know that there is such a thing called the Internet," she says. "They need to know that their confidence will improve and they'll be able to search and get information about jobs and even personal information."

Being connected, heard, and externally validated within a global community provides many women the courage and support they need to become change agents at home.

Jensine Larsen

Founder, World Pulse

The founder of the global women's network and online forum World Pulse, Jensine Larsen, describes a similar phenomenon. Women who "are really devalued in their local communities" or who "face extreme discrimination in their families" can find encouragement online through conversations with other women, often in far-flung places. Being connected, heard, and externally validated within a global community provides many women the courage and support they need to become change agents at home, says Ms. Larsen.

But even outside formal courses, our study revealed that many women Internet users derive empowerment benefits. One of the mechanisms of empowerment for women in developing countries may be social networking. Admittedly, the empowerment potential of social networking platforms varies drastically, individually, across networks, and across cultures. Indeed, at least one study of Facebook users, in Sweden, correlated Facebook use with low self-esteem.³²

On the other hand, many networking platforms encourage and facilitate self-expression, which boosts self-esteem and confidence in one's ability to express oneself. Social networks also allow women to enlarge their communities outside the scope of their own geography. Many users in Uganda, particularly, cited the benefit of making new friends at home and abroad through social networks.

Understanding how the rest of the world works is crucial to contextualizing your own position in it and to reflecting on it critically. As a student in Mexico put it, one of the main benefits of the Internet for her was "finding out more about other countries [and] feeling connected with the world rather than imprisoned in my country, without any opportunity to find out more." An older Mexican user



described the Internet as "like being connected to the world from your home. You can discover countries, customs, and people from places that you might never visit in your lifetime."

This sense of connection enlarges women's understanding of the possibilities open to them. It can also foster a sense that they can change their current situations. "We have observed a strong correlation between Internet access and self-identification as activists...Internet access transforms civic engagement. It leads a population to be more connected, more hopeful," says Ms. Jacobi, of Digital Democracy.

³² Sweden's Largest Facebook Study: A Survey of 1,000 Swedish Facebook Users found that "low educated groups and low income groups who spend more time on Facebook... report feeling less happy and less content with their lives. This relationship between time spent on Facebook and well-being is also salient for women, but not for men." https://gupea.ub.gu.se/bitstream/2077/28893/1/gupea_2077_28893_1.pdf

User Profile:

Tapping into global networks for women's empowerment

"Internet empowers the masses, and especially the women," she says. "With information they can engage with more confidence and to raise their voice."

Grace Ikirimat, Age 42
Kampala, Uganda

For Grace Ikirimat, the Internet is a tool of empowerment—not just for herself, but for women throughout her country. As a senior programme officer in the population secretariat of Uganda, Grace intimately understands the challenges that Ugandan girls and women face. She even conducts a Sexual Health Information Project that reaches out to young Ugandans throughout the country.

Before 2006, when her office first got online, Grace rarely used the Internet. But she soon found it very useful, because it allowed her to tap into networks of like-minded women around the world and to expand dramatically her professional and social community. "Before the Internet," she says, "I could never think of talking with someone I didn't know." Through online forums and discussion groups, Grace has learned about technical issues related to population, while a Google search for "women's empowerment" led her to a global women's networking site called World Pulse. She now blogs there on issues of women's health and empowerment. "The Internet has really helped me build my profession and career," says Grace.

Grace later bought a laptop for home use, along with a modem. She also recently purchased a new smartphone—solely for the purpose of accessing Twitter, which she learned of through World Pulse. "I came to mobile for the need to tweet," she says.

Grace acknowledges that her Internet experience is not representative of Ugandan women. "In Uganda, there is very low computer literacy, less than 10 percent, so I have an advantage," she says. "And at least I can afford the Internet—this is the challenge for most of the women." There are also cultural barriers to access and use, Grace says, especially in the rural areas where most Ugandans

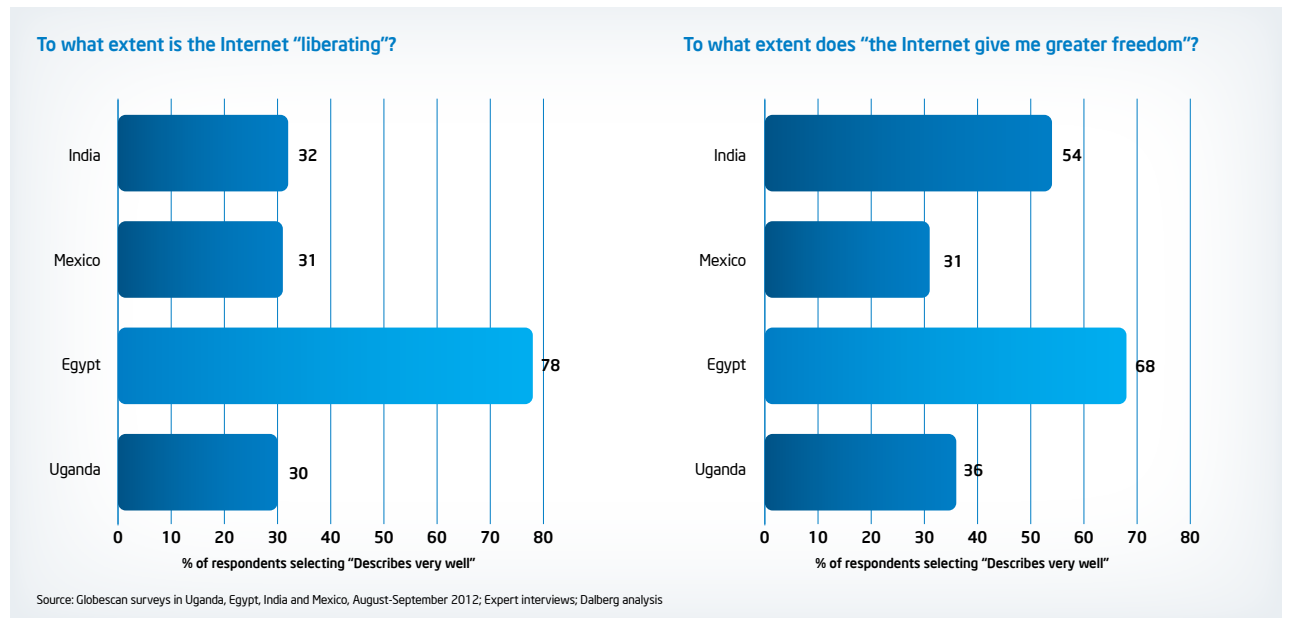
live. Women are not fully aware of how useful the Internet can be in bettering their lives, both practically and politically. Meanwhile, men often suspect that women who go online "are trying to become promiscuous and are looking for other partners," says Grace. "We have to change that perception."

One way to do so would be to show women just how empowering the Internet can be. "Target the organized [women's] groups and support them to appreciate the usefulness of the Internet," she says, including through programs that would allow the reporting of gender-based violence through the Internet. But that's just the start for Grace and many others. "Internet empowers the masses, and especially the women," she says. "With information they can engage with more confidence and to raise their voices."



Grace purchased a Samsung Mini Galaxy GT S5570 when she wanted to start using Twitter.

Figure 14: Respondents' perception of the Internet



The Internet can also spark political engagement. Indeed, users in Egypt, a country that has undergone massive political change in the past two years, associated the Internet with political freedom. Seventy-eight percent of Egyptian Internet users characterized the Internet as "liberating," and 68 percent said it gave them greater freedom. Many Egyptian women reported finding it highly

useful for keeping abreast of current events in Egypt and abroad. "I am still following political news, especially during and after [the] 25th January revolution—a lot of political changes," said one respondent. "Plus [I am] downloading movies, series, songs, contacting friends on Facebook, talk[ing] to my relatives and friends who live abroad, [getting] religious information..."

Case Study:

Women mobilizing online for a cause: The Pink Chaddi campaign in India³³

It began with an attack in a bar. But when women harnessed the power of the Internet, within a week it became a campaign with more than 50,000 members—and from there, a movement for women's rights.

In the Indian port city of Mangalore in January 2009, a group of young women and men were meeting in a pub when they were attacked by a group of 40 activists from the right-wing Hindu group, Sri Ram Sena. The attackers accused the women of being immoral and disrespecting traditional Indian values, because they had gone out with men and had drunk alcohol. In the days that followed, Sri Ram Sena's founder, Pramod Muthalik, not only praised the attack, but announced plans to target unmarried couples celebrating the upcoming Valentine's Day. In particular, he threatened to forcibly marry any unmarried couples seen in public together. Few appeared to pay the attack much attention.

Except for Nisha Susan. Susan, a journalist and writer, started a Facebook group with a few friends in a joking response to the incident. Named "The Consortium of Pub-Going, Loose and Forward Women," their online group sought to bring attention to the type of vigilante policing that Susan found oppressive to women.

In the first day the group already had 100 members. By the second day, membership had grown to 1,500, and by the end of the first week more than 50,000 had joined. "It allowed people, women in particular, who had nothing else in common politically to unify around a common cause," says Susan. With such a response, Susan and her fellow organizers saw an opportunity to mobilize for action. The organizers published the street address of the Sri Ram Sena office and invited supporters to send Pramod Muthalik

pink underwear (known as chaddis). Susan explained in an interview with Movements.org, "Chaddi is a childish word for underwear and slang for right-wing hardliner. It amused us to embrace the worst slurs, to send pretty packages of intimate garments to men who they say hate us."

Facebook provided the group a platform to organize collection points for the chaddis, plan offline meetings and demonstrations, and discuss women's issues. As Susan described, "A lot of organizing began to start happening offline once people connected to the cause online—not just in metros but in more rural areas, people would connect and organize events or action." In addition, the movement seemed to bring out people who wouldn't normally call themselves activists—and who might not normally be associated with Facebook use. "I was amazed at the number of older women—I've never seen old women participate in activist movements like this," Susan said.

The story was picked up across Indian media outlets and stimulated heated debate in newspapers and in homes alike around the freedoms and roles of women in India today. While the movement did result in Sri Ram Sena cancelling the planned Valentine's Day policing, Nisha believes the lasting impact of the movement lies elsewhere. "There was a stimulus to bring people together around something, but what was really great was that it was then stimulating new discussions and networking was happening for all sorts of things once people were connected." The most noticeable impact, she says, was in helping women "feel less fear." The Pink Chaddi campaign serves as a notable example of how women can use the Internet to expand their networks not just for their own benefit, but to inspire, unite and empower women in their communities, countries, and beyond.

³³ Interview with Nisha Susan, Movements.org





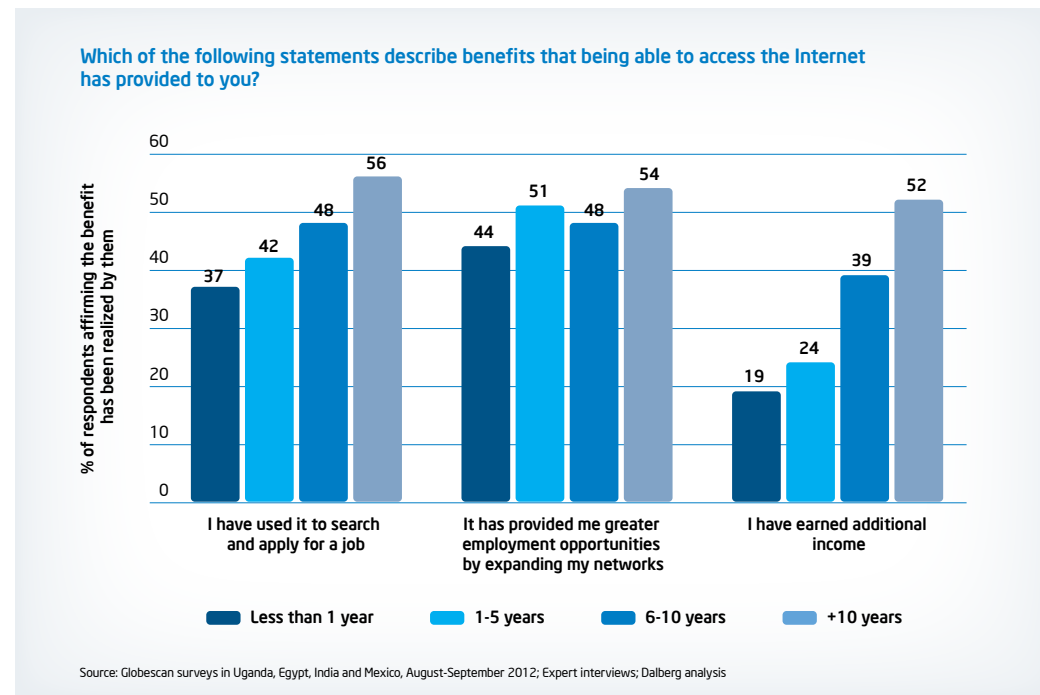
Not all access is equally empowering

The Internet can convey numerous benefits to women, but unlocking these benefits depends on how deeply women engage online. “Fully engaging” on the Internet requires feeling conversant—knowing what to look for, how to search, and how to leverage networks, knowledge and services—as well having fast, unrestricted, reliable access.³⁴ Our study showed that the longer a woman had been using the Internet, the more likely she was to report concrete benefits such as earning additional income, applying for jobs, and helping with her studies. Users with

multiple platforms to access the Internet were also more likely to report these concrete benefits than users of either computers or mobiles only.

Our analysis showed a correlation between an Internet user’s level of engagement and the benefits she cited. The longer a woman had been using the Internet, the more likely she was to report that she had used it to search and apply for a job, or to earn additional income. In addition, the longer she had used the Internet, the more likely she was to report that it had helped her leverage social networks, including for expanded job opportunities.

Figure15: Share of Internet users reporting employment and income-generation benefits



Our study found a less pronounced correlation between the type of hardware a woman used to access the Internet and her reported employment-related benefits. Although multiplatform users were more likely to report such benefits, users who access the Internet on mobile devices were more likely than computer-only users to report that they had used the Internet to apply for jobs, leverage social networks, and earn income.

However, there is a caveat: Not all mobile Internet access is equal. For instance, a feature phone with access only to Facebook and Twitter, for instance, is not as useful in hunting down dissertations as a smartphone with a powerful 4G connection. Although many mobile Internet users in our survey appreciated the flexibility and privacy of mobile—especially where a broadband-connected, private computer is unavailable—many also preferred the size, speed, and ease of use of a computer for work or research related tasks.

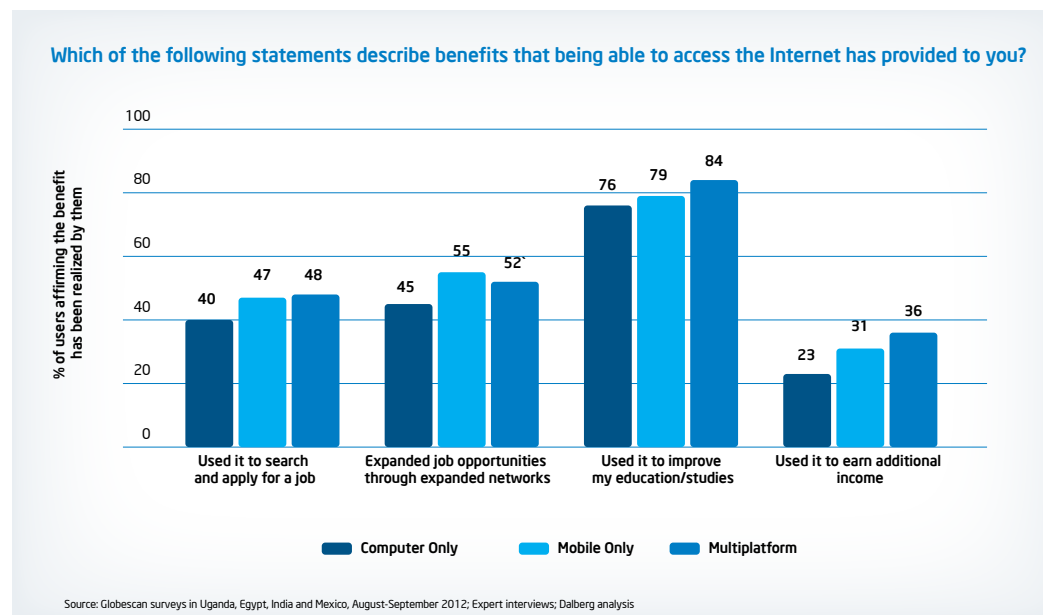
Advocate Anita Gurumurthy of IT for Change argues that women who can access only mobile phones do not receive the transformational and empowering benefits of the Internet. “Women need to participate in a full-fledged way, with the Internet and a computer or laptop, in order to create knowledge. This isn’t possible with a platform such as SMS....They need equal participation,” she says.

Benefits of Internet access do not accrue to women and girls alone. The effects of bringing millions more women and girls into the online world ripple far beyond themselves and their own households and communities. Exposed to new information, ideas, and connections, women and girls spread their new knowledge and confidence throughout their spheres of interaction, helping to undermine stereotypes and other foundations of gender inequality. Increased participation—whether in the political, social, or economic spheres—can open new avenues for women’s

engagement and markets targeted to women, introducing greater diversity and opportunities for growth. And individual gains in education, entrepreneurship and employment all create long-term and sustainable GDP impact. In the hands of women, the Internet can become a powerful tool for widespread social change and economic growth.

³⁴ Definitions of ‘engagement’ on the Internet are widespread. For example, a BBC commentary voices the opinion that active engagement, rather than passive consumption, should be a goal for Internet users in a ‘digital Britain’: “It is one in which universal access allows us all to be fully-fledged citizens of a networked world that offers opportunities for creative expression and communication instead of the passive consumption of packaged content.” Bill Thompson, <http://news.bbc.co.uk/2/hi/technology/8104065.stm>

Figure 16: Impact of Internet platform use on benefits realized



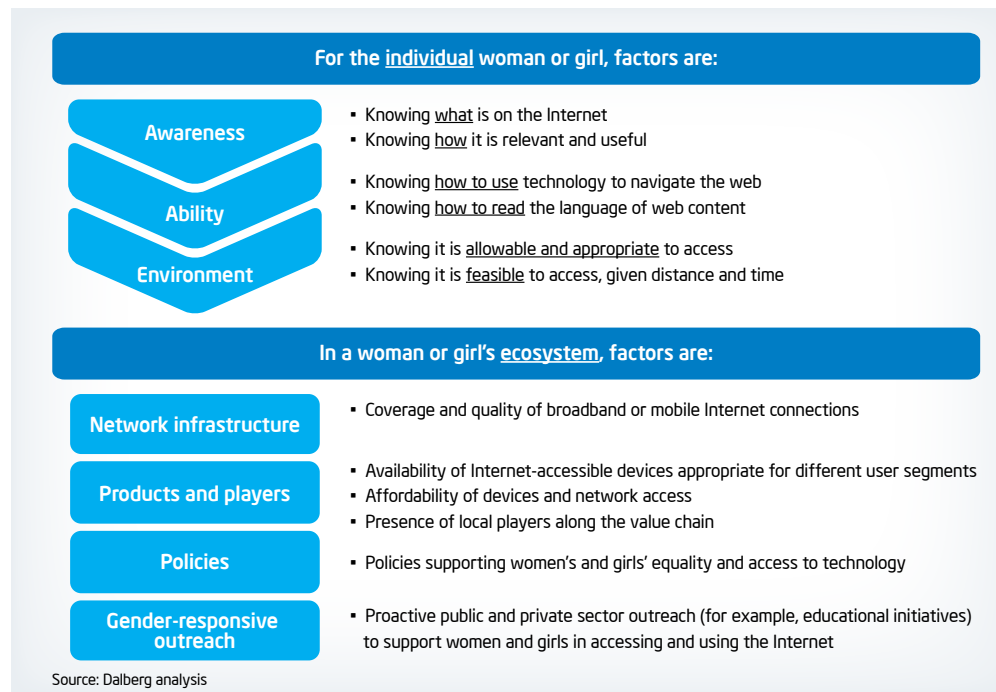
Understanding and overcoming gender barriers to the Internet

Despite great gains in gender equality over the past 50 years, the Global Gender Gap study shows that women still have less economic and political power than men.³⁵ Continuing gender discrimination in many low-income countries not only hampers economic development, but has serious consequences for the lives of women and girls.

The barriers women and girls face to getting online both reflect and reinforce gender norms. Women tend to be less aware of the Internet than men, have less facility online, and are often restricted by cultural norms from using the Internet at all. In addition to these gender-specific barriers, women in developing countries face the same obstacles to Internet

access that men do: lack of broadband infrastructure, lack of wireless penetration, and correspondingly high prices. The expansion of mobile Internet has dramatic potential to broaden women's Internet use, but it would come with tradeoffs relative to computer-based Internet access.

Figure 17: Factors that influence Internet access for women and girls



An overlooked aspect of India's digital divide: gender

Over the past 20 years, a technological revolution has transformed India, spurring job creation, raging economic growth, and a swelling middle class estimated. But those who trumpet the power of tech in India often fail to mention its enormous digital divide: Of 1.1 billion people, only 10.2 percent use the Internet, leaving approximately a billion Indians offline.³⁶ In an effort to confront digital exclusion, the Indian government approved a National Policy on Information Technology, which envisions using technology to drive inclusive and sustainable growth. The policy, enacted in September 2012, aims to make at least one individual in every household e-literate.³⁷

What is often lost amidst India's ever-changing landscape is that Indian women often remain well outside technology's benefits. The reasons vary from region to region, across classes and towns, and even from household to household. In a village in conservative northern state of Uttar Pradesh, for instance, many women who do not use the Internet explained to our surveyors that gender norms prohibit women from merely venturing outside. But similar norms restricted Internet use even in Tamil Nadu, a southern state that enjoys a reputation for comparative gender equality. An unemployed young woman in that state explained that her family does not allow her to get online: "They think I may watch some things that are wrong on the Internet," she reported. Similarly, a lower-income homemaker in Tamil Nadu said, "They say it is enough if I do household work."³⁸

“But similar norms restricted Internet use even in Tamil Nadu, a southern state that enjoys a reputation for comparative gender equality.”

Gender barriers to access

Women in our survey described three main types of barriers to online access: Many women simply do not know what the Internet is or how it might benefit their lives; others have never learned to use the Internet; and cultural norms and expectations keep women away from the Internet. The power of these barriers varies across our focus countries, and even within our focus countries, they intersect with a range of socioeconomic indicators, including income, education level, and employment.

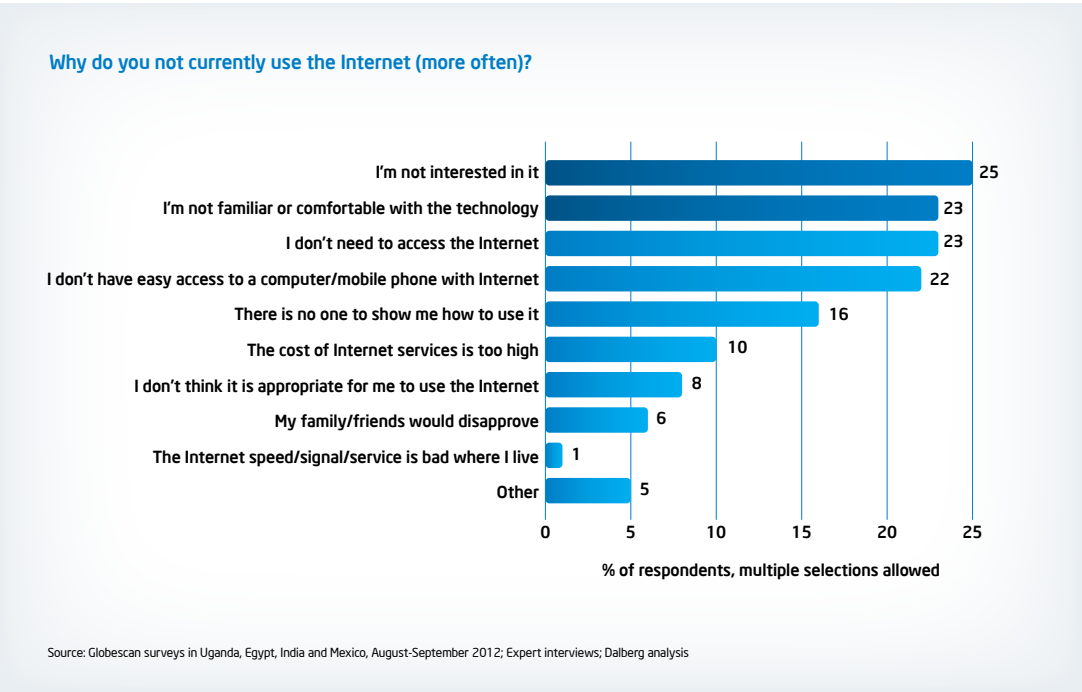
³⁵ World Economic Forum, *The Global Gender Gap Report 2012*. In a study of indicators across 135 countries, “only 60% of the economic outcomes gap and only 20% of the political outcomes gap have been closed.” <http://www.weforum.org/issues/global-gender-gap>

³⁶ <http://www.Internetworldstats.com/stats3.htm#asia>

³⁷ http://articles.economictimes.indiatimes.com/2012-09-18/news/33926077_1_USD-information-technology-ict-sector

³⁸ For a fuller assessment of gender disparities between Uttar Pradesh and Tamil Nadu, see Jejeebhoy, S and Sathar, Z, *Women’s Autonomy in India and Pakistan: The Influence of Religion and Region*, excerpted from *Population and Development Review* 27(4):687–712 (December 2001). Accessed at <http://www.populationcouncil.net/pdfs/councilarticles/pdr/PDR274Jejeebhoy.pdf>

Figure 18: Barriers to usage



I. Lack of awareness

Even as the Internet pervades more aspects of everyday life in higher-income countries, much of the world's population does not yet realize what it could do for them. In developing countries—and especially among some groups of women in developing countries—there remains a profound lack of awareness of the Internet: what it is, how to access it, and most importantly how it might be useful. In addition to lack of technological understanding, lack of Internet awareness constitutes a major barrier to Internet access.

The women in our survey who did not use the Internet signaled a lack of awareness of the Internet's uses and lack of interest as major barriers to getting online. Forty-one percent of non-users in Egypt, and 31 percent in India, said they were not "interested" in using the Internet. Nearly a quarter of Egyptian non-users and 40 percent of Indian non-users said they "didn't need access to it." When asked why she does not currently access the Internet, for example, a middle-aged Indian woman who works fulltime gave her reason plainly enough: "No need," she said. Lower percentages of non-users in Mexico and Uganda cited lack of interest or need as a reasons they are not online.

Even in societies without overtly restrictive gender expectations, Internet awareness is lower among women than men. In 2008, a Pan-African network of researchers, ResearchICT Africa, conducted a study of Internet awareness in 15 countries in sub-Saharan Africa. In every country except Senegal and South Africa, less than half the respondents knew what the Internet was. Moreover, there was a clear gender discrepancy: in 11 out of the 15 countries, men were more likely—sometimes dramatically more likely—to know what the Internet was. In Uganda, the ResearchICT survey showed 10 percent of men and a scant four percent of women knew what the Internet

Figure 19: Lack of awareness is much more prevalent for women in India and Egypt

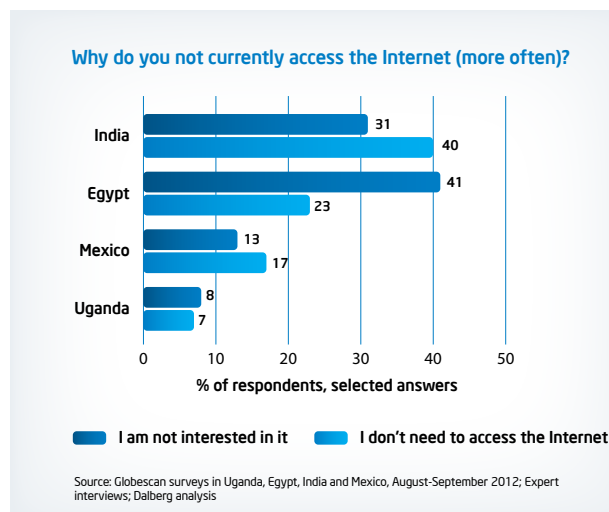
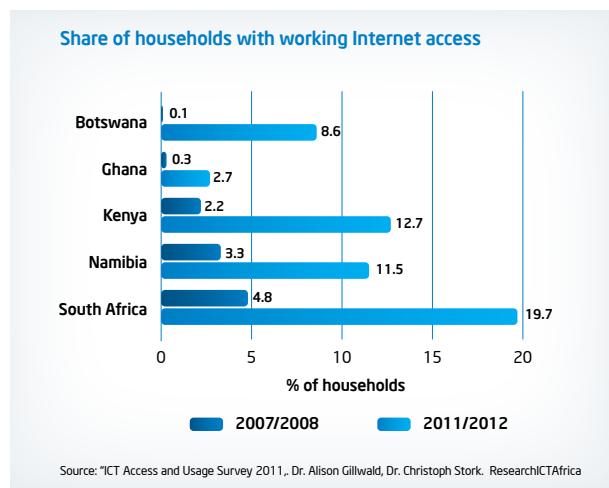


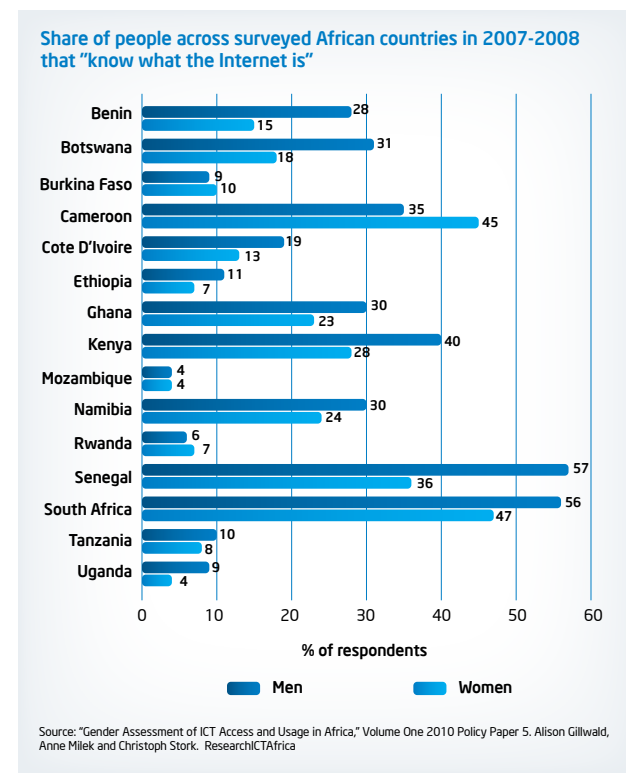
Figure 20: Internet access for households across select African countries



was. The rapid pace of Internet access expansion indicates this is changing. An updated ResearchICT survey in 2011/2012 showed sometimes dramatic increases in the number of households with a working Internet connection, across selected countries in sub-Saharan Africa. Our survey also indicated this has changed. [See Internet and the macro climate: Uganda, on p. 61.]

Women appear to be less aware of the Internet than men

Figure 21: Low awareness levels among women a key barrier to Internet access across sub-Saharan Africa



are for a variety of reasons. People often gain exposure to the Internet at their schools and workplaces. But in many developing countries, fewer girls than boys go to school, and all over the world, fewer women than men participate in the formal labor force.³⁹ In some communities, gender norms prohibit women's participation in the public sphere—even to the extent of walking in the street. As a low-income, elderly homemaker in Uttar Pradesh, a conservative state in northern India, put it: "At my place, ladies are not allowed to go outside." She was not alone. Of about 20 non-users we surveyed in Uttar Pradesh, 15 remarked that women and girls are not generally allowed to go outside. They would likely have little opportunity to duck into an Internet kiosk or café to see what all the Internet fuss is about.

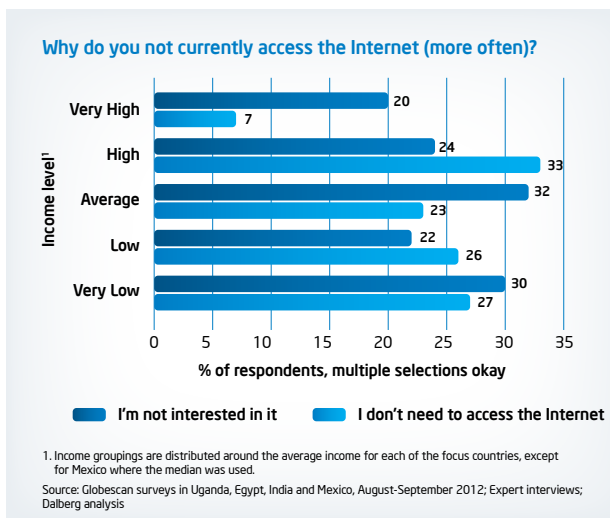
Responses to several of our survey questions pointed to a marked lack of awareness of the Internet among some women. In the words of one woman in Karnataka, India, when asked why she does not use the Internet: "I don't know anything about that." And when asked what should be done to increase women's use of the Internet, respondents singled out awareness initiatives. "Do some promotional activities and educate the village or poor family women about the Internet," said one user in India. A non-user in Mexico recommended that governments and other stakeholders "develop campaigns about the importance of Internet usage for women when used responsibly."

³⁹ World Bank data. In developing countries there were 0.968 girls enrolled in primary or secondary school for every 1 boy in 2010. In developing countries women made up 39% of the labor force in 2010.

Awareness and socioeconomic factors

Our analysis found that awareness of the Internet was not generally correlated with income. Higher income non-users were nearly as likely to say they didn't need or weren't interested in the Internet as lower income users. The exception was non-users with the highest incomes, who were least likely to say they did not need or have interest in the Internet. However, this may reflect the relatively small share of respondents in this income group (6 percent).

Figure 22: Lack of interest in Internet by income group

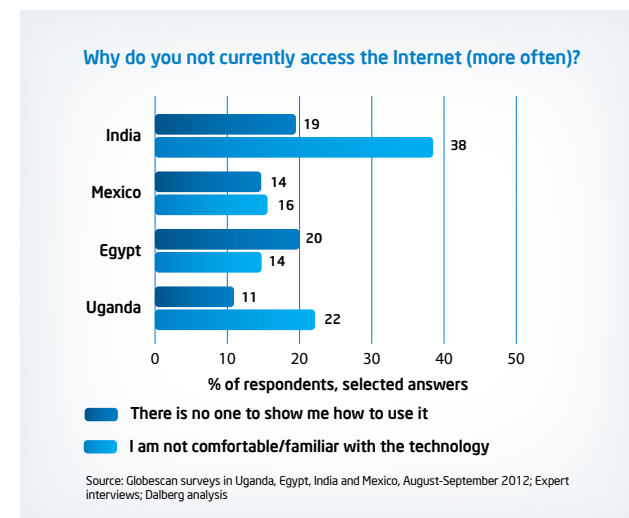


II. Lack of ability/Facility

Of all the women in our survey who do not use the Internet, [37 percent] cited discomfort with technology as a reason. In particular, when asked why they do not use the Internet, they responded "I am not familiar or comfortable with the technology" and/or "There is no one to show me how to use it."

For example, a middle-class working woman in Mexico said the most important barrier Mexican women face to

Figure 23: Non-users discomfort with technology



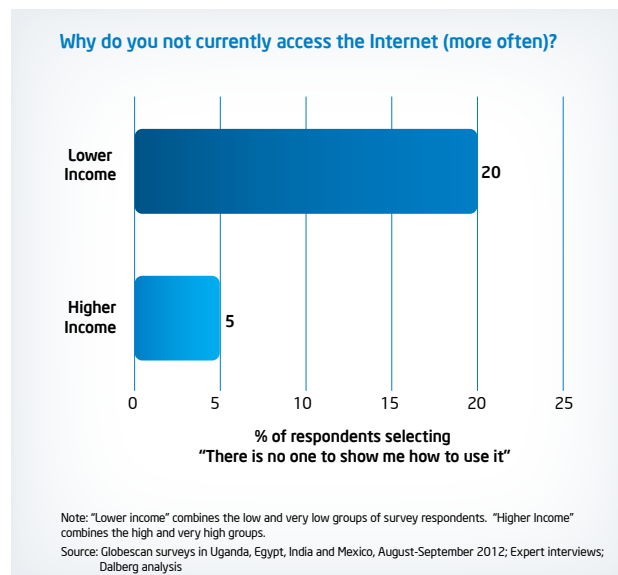
Internet access is a “general lack of knowledge towards technology.” Mothers felt left behind, as another Mexican woman indicated: “I have thought about paying someone to teach me how to check [my children’s] computers so I can see what websites they are visiting. Someone told me it is possible to do this, but I don’t know anything about that.”

Discomfort with technology should not be characterized as an innate “technophobia” among women. Instead, it usually stems from the fact that many women non-users are not exposed to the Internet. The reasons for their lack of exposure are similar to the reasons for the gender awareness gap: less employment outside the home, less formal schooling, and less physical mobility. What is often perceived as technophobia in reality results primarily from gender norms and unequal opportunity.

What happens when one controls for those sorts of variables? That is, if women enjoyed equal opportunities as men, would there still be a gender technology gap? One of the largest known empirical studies on the issue revealed that, “women turn out to be more active users of digital tools than men” when controlling for employment, education, and income.⁴⁰ The 2011 study, which analyzed data sets from 12 Latin American and 13 African countries over three years, for a total of 1.2 million observations, provides very compelling evidence that women are at least as technology adept as men—and may have a greater affinity for ICT than men do. “The reason why fewer women access and use ICT is a direct result of their unfavorable conditions with respect to employment, education and income,” the study concludes.

Our analysis also found a link between income and the ability to access the Internet. Women non-users with high incomes were less likely than non-users with average

Figure 24: Lack of Internet skills by income



incomes to cite the absence of anyone to show them how to use the Internet as a barrier.

The link between women’s socioeconomic power and technological facility could be circumvented through training programs—and, perhaps not surprisingly, many women in our survey called out for more training. Moreover, most called for training targeted specifically to women and girls. “[C]reate a program designed to teach these women and girls to use a computer,” advised one Mexican respondent, who added that older housewives like herself felt particularly “set aside.” Indian respondents called for “classes to educate females about the Internet” and “free training in computer education.” Ugandan women similarly

“What is often perceived as technophobia in reality results primarily from gender norms and unequal opportunity.”

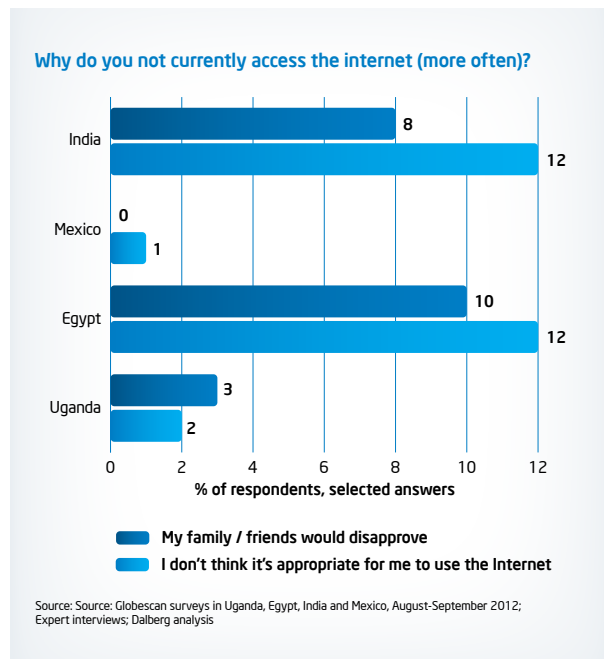
cited the importance of female-oriented technology training: “Reach out [to] different schools and educate the girls more about the Internet,” said one non-user respondent. Others underscored the difficulties that many girls in Uganda face in completing formal education, calling for “seminars for those who don’t go to school” and “adult education so that women can learn.” Training needs to address digital and information literacy, enabling women to feel comfortable using a computer but also in seeking out information they are looking for.

⁴⁰ M. Hilbert, Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics. *Women's Studies International Forum* 34 (6), 479-489 (2011).



Photo credit: AFP photo 2012
Indian women check mails and browse the internet at an
Akshaya (Eternal) e-learning centre at Mundakulam village of
Malappuram district in Kerala.

Figure 25: Cultural pressures experienced by non-users



III. Cultural norms

In some countries, barriers related to cultural and gender norms play a significant role in limiting women's use of the Internet. Non-users in all of our focus countries reported cultural or family norms—even internalized norms—related to their going online. The quality of this resistance varied. Some respondents registered only a lack of support. But others reported outright discouragement or prohibition.

Compared to awareness, ability, and cost issues, the survey results indicate that in some countries cultural norms played less of a direct role in keeping women offline. Indeed, non-users in Mexico and Uganda indicated that cultural norms played a negligible role in dissuading them from using the Internet. But they had a significant effect in India and Egypt, where women were up to six times more likely than women in Uganda to report that the Internet was not appropriate for them or that their friends and family would disapprove.

Stereotypes and preconceptions about women's capabilities with technology also play a role. One expert we interviewed, Gayatri Buragohain of the Feminist Approach to Technology (FAT) cited her own challenges with stereotypes in India as an example. Despite having an Engineering degree, she found her own family limiting her access to a household computer—but letting her husband use it—for fear that if she touched it something would go wrong. As Ms. Buragohain described, "Fear [of technology] is instilled in girls" and it cuts across socioeconomic backgrounds, contributing to stereotypes that are shared by both women and men.

Interviews with Ms. Buragohain and others indicated that surveys could shed light on only some aspects of the impact that culture can have. With many women internalizing the view that the Internet is potentially frightening and technologically out of reach, it is possible

that cultural norms influenced the high number of women responding that they do not need the Internet or are not interested in it. In addition, in some countries non-users surveyed were more likely to have had a partner or family member in the room with them at the time, further limiting a woman's comfort to be completely forthright in answering the survey questions. While the survey does indicate the role that cultural norms play in limiting women's and girls' access to the Internet, the full effect may be even more pervasive.

The Importance of family support

Family support significantly enables women's Internet use, our analysis found. Active Internet users in our survey were almost three times as likely as non-users to report that their families or partners were "very supportive" of their using the Internet. Non-users, meanwhile, were six times more likely to report family opposition to their use of the Internet. Indeed, only three percent of Internet users reported that their families or partners did not support their using the Internet. While family attitudes towards women's Internet use directly impact many women's access to the Internet, it may also serve as a proxy for broader cultural norms, attitudes and practices that affect women's Internet access and use in other contexts such as school and work.

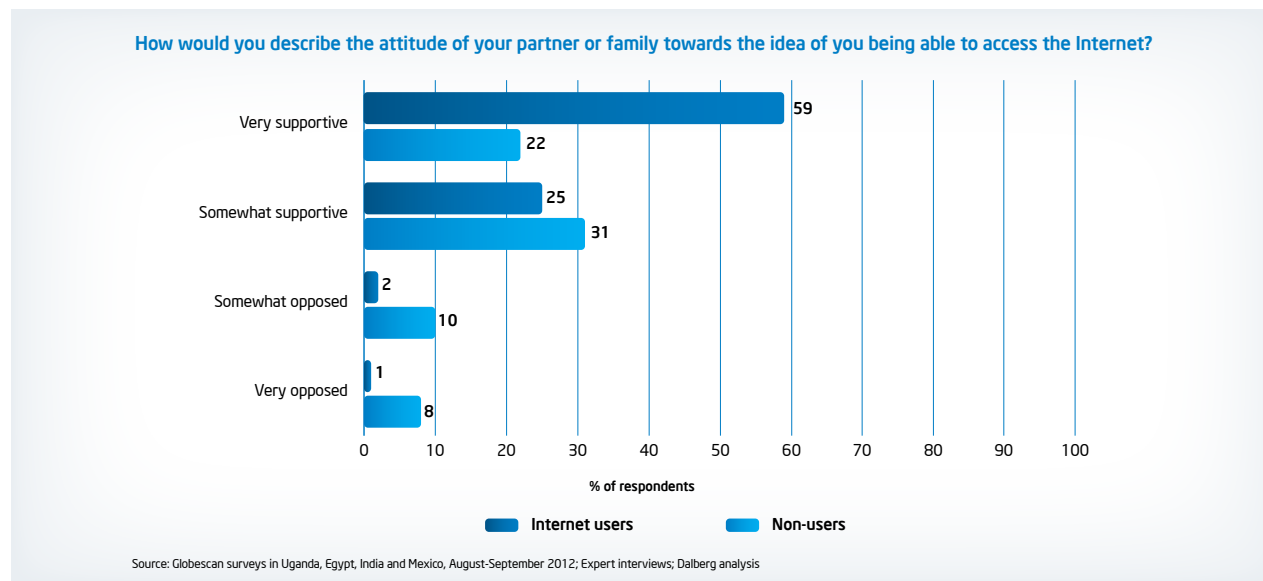
Types of family opposition

When probed on why their spouses or families opposed their accessing the Internet, non-users described a spectrum of opposition and motives, ranging from an impulse to control to a desire to protect. Several types of concerns emerged from spousal or familial opposition to Internet use: control, safety, exposure to pornographic content, the cybercafé environment, and scarce resources.

Control

When asked why her spouse opposes her using the Internet, a lower-income homemaker from Oaxaca,

Figure 26: Family support by users vs. non-users



Mexico, reported: "Because he thinks I am online looking for men." Another Mexican homemaker, this one from the region of Morelos, explained, "Because he is the one who makes the decisions. If he says yes, yes it is. If he says no, there is no discussion." Similar messages were voiced by women in other countries as well. In India, a young homemaker stated about her family's opposition, "They will say that I have to do household work and look after children, so I don't need [the] Internet." And a lower-income homemaker from Egypt said simply, "Because they are not convinced with letting women access the Internet."

In Mexico, family or spousal opposition to Internet use was rare overall, but somewhat more common at the lower end of the income scale. By contrast, in Egypt, spousal opposition was more common across

incomes—perhaps because only about a quarter of Egyptian women work outside the home. For instance, one high-income, university-educated homemaker in Greater Cairo reported that her husband opposes her Internet use "because he is afraid of letting me make some friend relationships with others, and some people could get my personal information."

▪ Safety

Teenagers and young women overall tended to report greater opposition to Internet use, with more than 25 percent of non-users aged 14 to 17 saying their families opposed their being online. "They get angry because they think it's a risk to my safety and because you may meet someone dangerous," said a young, middle-class homemaker in Mexico City.

Such concerns are not unwarranted. From chatrooms to Facebook, the Internet has long provided opportunities for kidnappers, sexual predators, and traffickers. The recent kidnapping and rape of a 14-year-old in Indonesia—who met her attacker on Facebook—underscores the potential vulnerability of women and girls online. The Indonesian case has prompted calls for the government to develop better measures for online safety.⁴¹

▪ Pornography

Women across our focus countries reported family or spousal opposition that stemmed from online pornography. "They think that when I am at the Internet, I am watching pornographic things," said a Ugandan student, explaining why her family discourages her from using the Internet. Similarly, an Egyptian homemaker reported that her husband "rejects my Internet access as he feels afraid of what he hears from his friends at work regarding the bad side of the Internet." Other respondents alluded to the prevalence of "dirty pictures" or "sex sites" online in describing why they or their families did not think it was appropriate for them to access the Internet. To remedy the situation, many respondents called for pornography-free Internet access. "Show full respect to women and prohibit all pornographic and sexual pictures," said an Egyptian non-user when asked what would make it easier for women and girls to access the Internet. Other Egyptian respondents called for women-only chat rooms.

⁴¹ See, e.g., N. Rulistia, Government, Public warned on Internet security, privacy, The Jakarta Post, October 6, 2012, available at <http://www.thejakartapost.com/news/2012/10/06/government-public-warned-Internet-security-privacy.html>

"If a family buys a computer, it will be for the son because he may end up with a job in IT. But if a family has two or three daughters, say, they don't want them online because of fears they may meet boys or unscrupulous characters."

Rania M. Fawzi, USAID Egypt's Competitiveness Project

- **Cybercafé environment**

In India, only 1 percent of households have a broadband connection, and less than 10 percent of mobile subscribers have Internet access. Thus, many women can access the Internet only a shared device. But in some towns and regions, the local cybercafés, or even NGO-run telecenters, are not very welcoming places for women.

Survey data from a town in Uttar Pradesh indicated that the local cybercafés were not popular among women for a variety of reasons, including cultural norms that discourage the mingling of men and women. Cybercafés are "not safe," said one respondent, and girls are "not allowed to go to the café regularly and alone." There is also a perception that cybercafés attract unsavory types: "Girls fear to go out because [there are] all types of people in the café," reported one Internet user. Another respondent highlighted the importance of the Internet as a vehicle for education, but added that the "only problem" was that girls have to go to the Internet café for access. "Many parents don't like this," she said.

Of course, the popularity of cybercafés differed throughout India—29 percent of Indian computer users said they accessed the Internet at a cybercafé—

and throughout the world. In Egypt, only six percent of computer users in our survey accessed the Internet at a cybercafé, while in Uganda, 60 percent did.

- **Preferential Allocation of Scarce Resources**

The cost of Internet access intersects with gender norms that discourage female Internet use. Families with scarce resources may preferentially allocate them toward sons instead of daughters. This is all the more the case when the person who controls the household purse strings considers the Internet a waste of time or a danger for women and girls, an attitude that some of our respondents reported. "If a family buys a computer, it will be for the son because he may end up with a job in IT. But if a family has two or three daughters, say, they don't want them online because of fears they may meet boys or unscrupulous characters," says Rania M. Fawzi, USAID Egypt's Competitiveness Project.

In Uganda, family opposition was much less a barrier to online access than it was in countries with more restrictive gender norms. But Ugandan survey respondents who reported family opposition to their Internet use often said their families objected to its costs. "[My] spouse thinks [I] spend so much money on airtime," said one low-income student in Uganda when asked why her family opposed her going online. A teenage homemaker explained, "My uncle may think that I use his money to go to the cafe."

Of course, there can be legitimate risks to women using the Internet that should not be overlooked. Sexual trafficking and online harassment are two of the risks women and girls face in using the Internet without sufficient knowledge of online safety. Education on safe use of the Internet, together with policies to address these dangers at a macro level,

are necessary to mitigate the very real risks and also to alleviate the concerns contributing to family opposition of internet access.

- a. **Cost**

The significance of cost as a barrier to women's Internet access varies by country. Not surprisingly, respondents in our wealthier focus countries, Mexico and Egypt, reported cost was less of a barrier to Internet access than respondents from our two poorer focus countries, India and Uganda. Thirteen percent of Indian and Ugandan respondents in our survey cited cost as a significant barrier to their accessing the Internet, and they were more than 60 percent more likely to do so than were respondents from Mexico or Egypt. An earlier survey of households in African countries, using different methodology, found that in some countries as many as 50 to 70 percent of respondents cited cost as the main reason they were not connected.⁴² The cost of Internet access is an even more profound barrier for women in rural areas, an assertion further supported by interviews with gender and ICT experts.

- b. **Not every woman faces the same barriers**

Results from our survey underscored the importance of not treating women as a monolithic group, and not treating the barriers they face to online access and use as a single issue. Where gender norms posed a barrier for a significant number of respondents in India and Egypt, their distribution was uneven. Further, gender norms appeared to have negligible effect in Mexico, and little effect in Uganda. In Uganda, respondents focused more than others on the barriers of cost and access.

⁴² Gillwald, Alison. Understanding Broadband Demand in Africa: Internet Going Mobile, ResearchICT Africa (2012). Accessed at <http://www.researchictafrica.net/docs/Gillwald%20CIT1%20Zambia%20Broadband%202012.pdf>



User Profile:

Establishing a global peace network from Zacatecas



Cristina Avila-Zesatti, Age 40
"Peace Journalist," Mexico

Cristina Avila-Zesatti is a journalist devoted to social issues, justice, and world peace. Though she comes from one of the poorest regions in Mexico—Zacatecas—she has traveled extensively and spent several years working in Europe. It was in an Internet café in Madrid that she first encountered the Internet, in 1997. Back at home in Zacatecas, Cristina now uses the Internet to cultivate and expand her global network, aware all the while of the contrast she paints with the women and girls of her hometown.

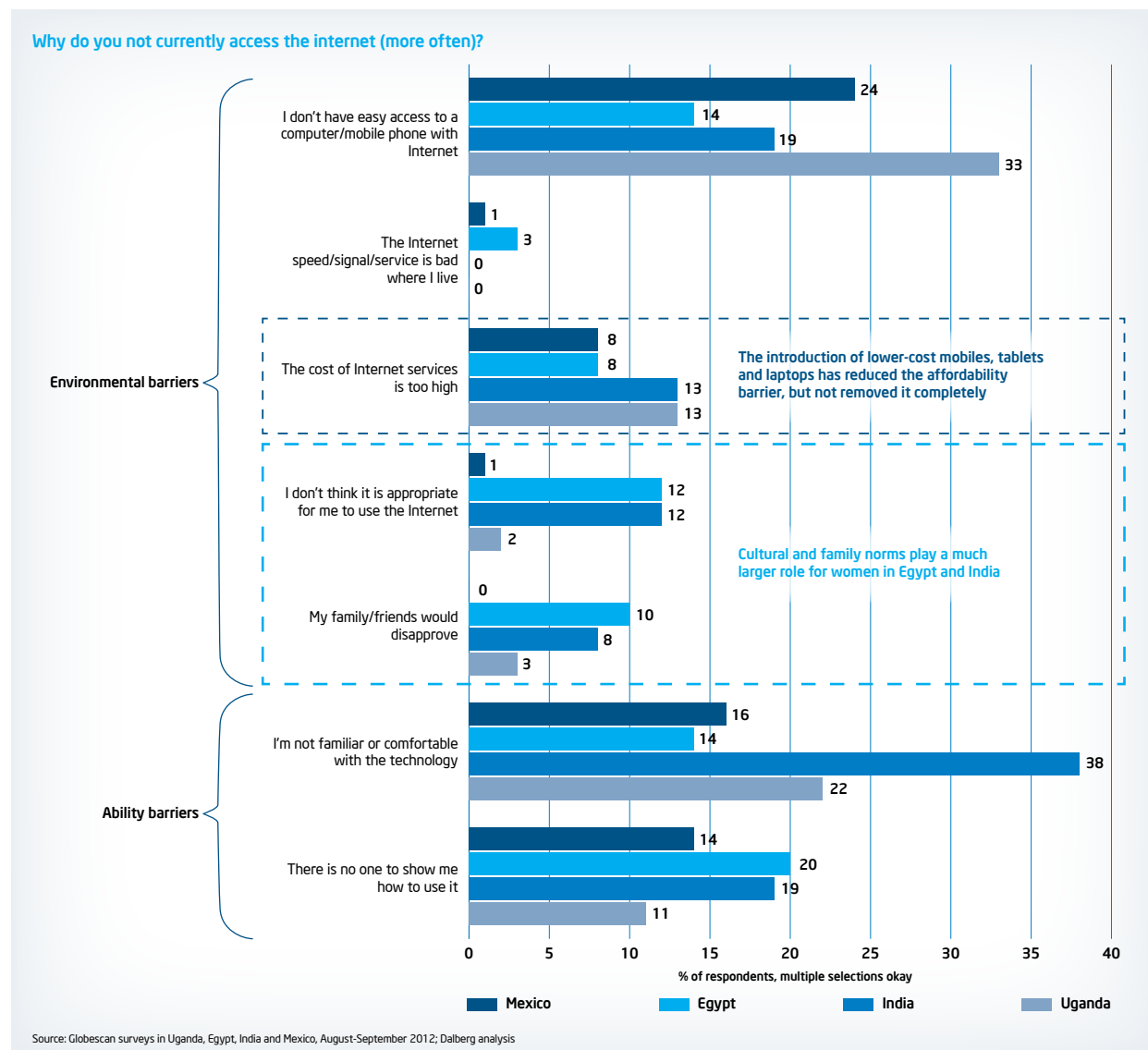
Cristina first learned how to use the Internet in order to send emails to a boyfriend while she was studying in Spain. By 1998, she had begun to use it regularly for work, and dealt regularly with the challenges posed by different Internet usage patterns across countries. While visiting Atlanta in 2000, Cristina struggled to find an Internet café to log on. It was only later that she realized that most people in the United States accessed the Internet on private computers.

Four years ago, Cristina started her own website at <http://www.corresponsaldepaz.org/>, which means "Peace Journalist" in Spanish. She conducts a good portion of her journalism online, where she meets sources and peers by networking online, through her website, and through other sites. She even found her own website developers

online. These days, Cristina finds herself fielding requests for information, interviews, and speaking engagements through her large and growing collection of global contacts. As this interview was being conducted, Cristina was preparing for a trip to Switzerland, at the invitation of an international organization which happened across her website. There she would meet up with another journalist whom she also knows only virtually.

Life is very different for most women in Zacatecas, Cristina notes. "Girls of my age are married and they are mothers," she says, "and...that's it." When it comes to Internet access, "everything is very difficult for girls in my country...as well as in the Latin American region." Cristina ascribes the challenges to women going online to culture, but also acknowledges the ambiguity of knowing for certain where the barriers really lie. "You can find some women who say that they really do not need it," she says. It all really comes down to "very different social expectations."

Figure 27: Environmental and ability barriers to Internet access cited by women in focus countries



Meanwhile, within any country, there are variations that often correlate to income, age, education level, and geography, and sometimes do not. Stakeholders must take

into account the universe of factors that affect a woman's online use. One of the most important is discussed in the next section: the overall availability of Internet access.

A missed opportunity: What keeps younger, urban, high-income women offline?

Affordability and Internet awareness are two crucial enablers of online use for women. But even urban women higher up on the income scale—usually with a good understanding of what the Internet is and does—had reasons for not using it.

Overall in our survey, 20 percent of urban professional women said they weren't familiar or comfortable with the technology. One high-income, university educated Mexican woman who works full time, but does not use the Internet, said: "They should offer special schools for women where they are taught how to use computers and the Internet. That way, it would be easier [for] women [to gain] that knowledge." A similarly positioned Mexican non-user called for "widespread Internet, so that we can learn how to use it." Yet another high-income, university educated professional Mexican woman said women needed a "manual to follow the steps and being able to go online."

Twenty-one percent of homemakers overall reported their spouses were either opposed or very opposed to their online use. Spousal opposition was a factor even in high-income homes. "He gets upset [by Internet use] because he says I am not tending to the house," said a relatively affluent homemaker in Mexico.

Would more women-friendly content drive women online? Egyptian women tended to think so. In Egypt, high-income women who did not use the Internet called for "new websites only for women" or "dedicated to women," or women-only chatting. Somewhat in the same vein, a high-income, university educated Indian professional who does use the Internet wanted cybercafés that are open only to women.

The Internet landscape in developing countries

The two most important factors determining women's online access are the overall availability and affordability of Internet access. Until relatively recently, low and middle income countries had been almost left out of the worldwide digital revolution because they lacked broadband infrastructure or the fixed telephone lines needed to support the early years of dial-up Internet access. But in recent years, the landscape of Internet access in developing countries has begun to change, leading to rapid adoption and unprecedented opportunities to reach regions and populations that had long lacked any connectivity. The slow but steady expansion of broadband access—and a corresponding drop in subscriber prices—accounts for some of the change. So does the explosion of mobile telephony in developing countries. By now, cell towers supporting mobile voice, SMS, and 3G Internet cover most countries. Mobile Internet requires less additional investment than broadband, which requires infrastructure such as optical fiber links and national backbones. Moreover, many Internet-enabled mobile phones are far cheaper than either computers or tablets. Thus they hold special promise for women in developing countries.

a. Broadband prices drop

"The World Wide Web has yet to live up to its name," said Eric Schmidt, Google's executive chairman, at a conference in June 2012.⁴³ Indeed, most of the world—some 4.6 billion people—lack any sort of Internet access. One main reason is that, historically, broadband in low and middle income countries has been either non-existent or too expensive for most of the population. Connection was usually through a dial-up modem—slow, unreliable and unevenly distributed, because fixed-line telephone networks

in developing countries often suffer from the same infrastructure barriers as broadband networks.

But in recent years, broadband subscriptions in the developing world have increased rapidly, by 18 percent in 2011,⁴⁴ and the price of a fixed broadband connection has plummeted. In developing countries, the

cost of a fixed broadband subscription dropped from 164.7 percent of per capita GNI in 2008 to 40.3 percent in 2011.

⁴³ Gaudin, S. Google's Schmidt warns "Net revolution leaves many behind," Computer World, June 20, 2012, available at http://www.computerworld.com/s/article/9228300/Google_s_Schmidt_warns_Net_revolution_leaves_many_behind

⁴⁴ ITU World Telecommunication/ICT Indicators Database (2012).

Figure 28: Changes in Internet access cost 2008-2011

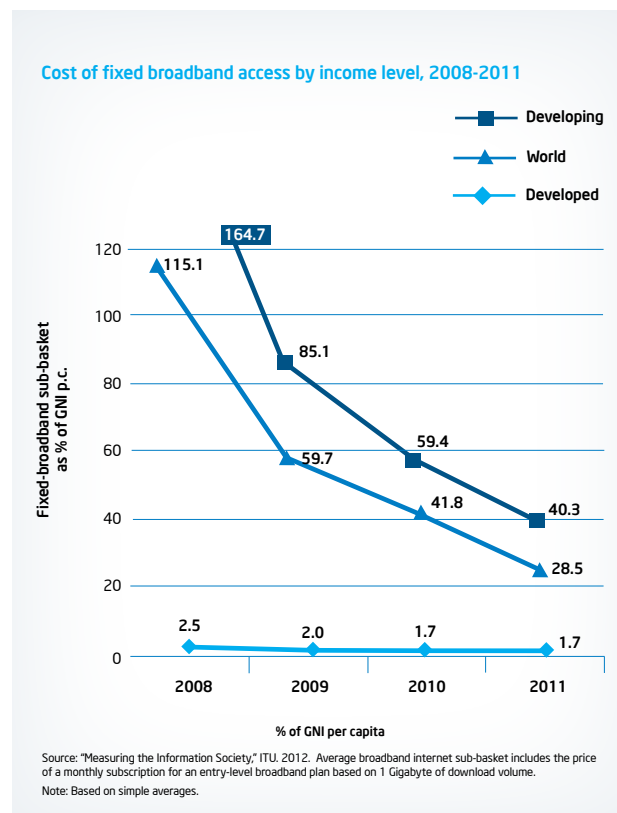
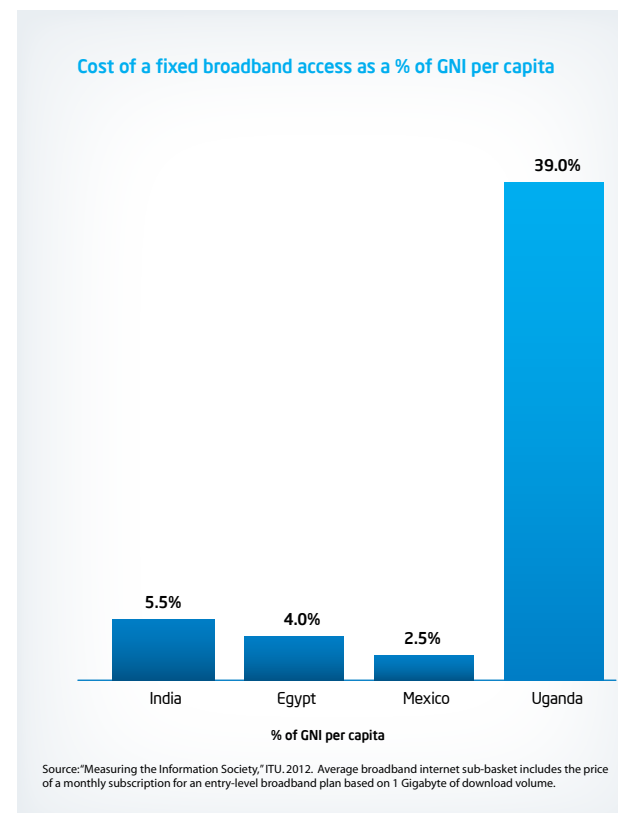


Figure 29: Cost of fixed-broadband Internet access in focus countries

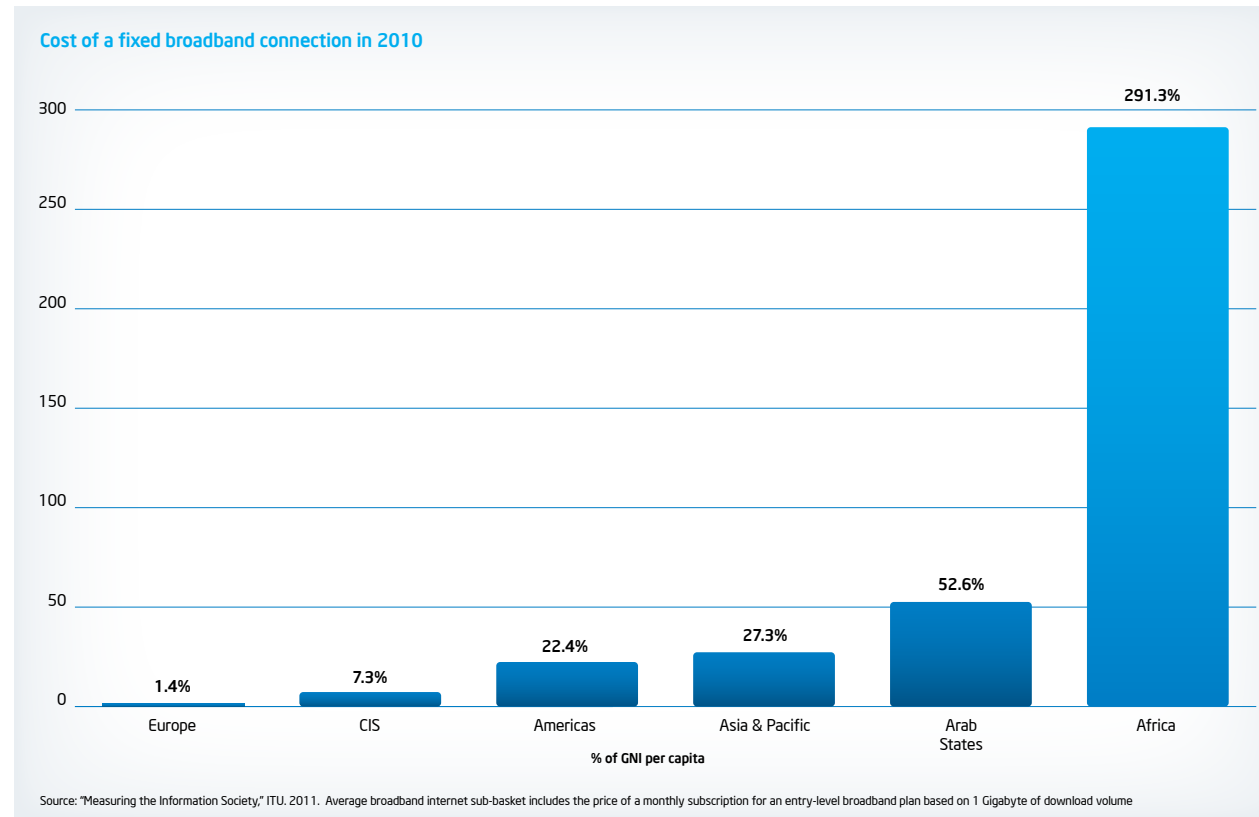


Should it continue, this trend bodes well for women in developing countries. As broadband availability increases and prices fall, affordability becomes one less barrier to keep Internet use from becoming more prevalent among women.

But there may be a limit. Even as broadband prices fall, they remain high relative to income in developing countries, costing on average more than 40 percent of annual of

per capita income. In contrast, the price of a broadband connection in higher-income countries is on average 1.7 percent of per capita GNI. In all four of our focus countries, women cited the cost of Internet access as a barrier to their online use—particularly in Uganda, where a broadband connection would cost an average-earning household more than a third of its income.

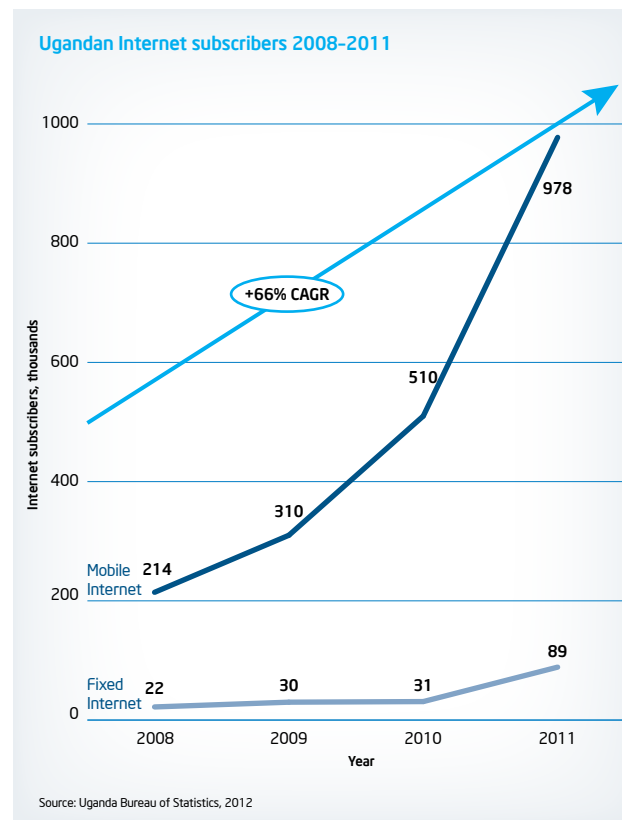
Figure 30: Internet access costs relative to user income



The number of Internet subscribers, whether mobile or broadband, doesn't capture the breadth of usage, because many Ugandans access the Internet on public or shared devices, such as at schools, Internet cafes, or family owned connections. And indeed, the number of Internet users has also risen dramatically. According to the Ugandan Bureau of Statistics, Uganda reported 214K mobile Internet subscribers in 2008 and yet 978K by 2011, experiencing a compound annual growth rate of 65 percent. Meanwhile, the number of active Facebook users seems to shoot up by the month. Just over the past year, the number has risen 50 percent, from 346,820 in October 2011 to 522,180 in October 2012.⁴⁵

Internet users still comprise a relatively small portion of Uganda's overall population, about 13 percent of 35.4 million in 2011, and the price of a broadband connection is still out of reach for most Ugandans. So are computer prices. Still, the massive growth in Internet availability and use in Uganda since 2008 has likely triggered awareness—even thirst for better Internet access. Albert Mucunguzi, Founder and Executive Director of PC Tech Magazine in Uganda, observes, "Just in the last three years we have really been introduced to social networking and the like. Before 2008, people just went to Internet cafes for Internet access, but now that USD100 smartphones have entered the market...I mean, every young person looks at their friend's new smartphone and says—I need to have one."

Figure 31: Rapid jump in Uganda mobile subscribers as cheap smart-phones have entered the market and cost of data plans have fallen



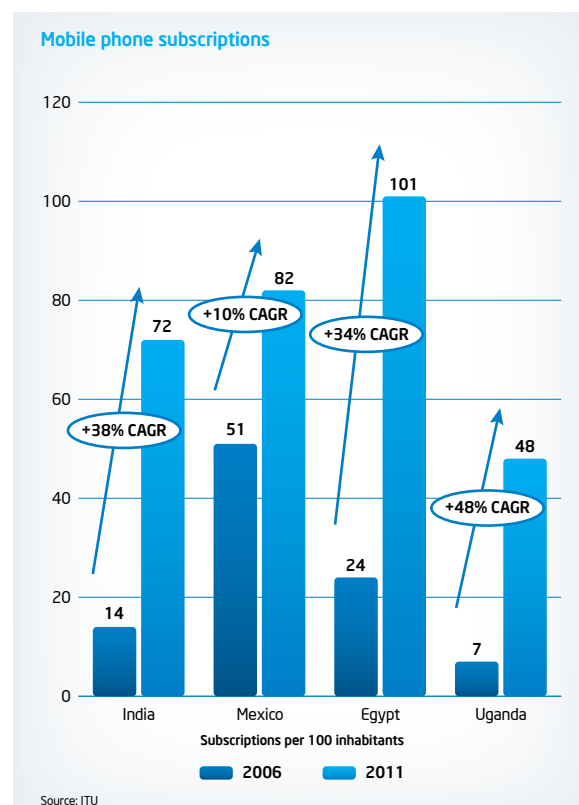
Women's awareness of the Internet and macro climate: Uganda

A 2008 ICTResearch study cited earlier in this section found very low awareness of the Internet in Uganda, especially among women: only four percent of Ugandan women knew what the Internet was. In contrast, our Ugandan survey respondents indicated fairly high levels of Internet awareness—higher, even, than in India or Egypt. Indeed, the most frequently cited obstacle to Internet use cited by Ugandan non-users was lack of an easy access point. The second was discomfort with technology, and the third was cost. Only 15 to 16 percent of Ugandan non-users in our survey indicated that lack of awareness was a barrier.

Part of the discrepancy is due to different phrasing of the question and different samples: our survey, for instance, focused on urban and peri-urban areas, and in Uganda, 84 percent of people live in the countryside. But there is another, perhaps more compelling, reason: A dramatic expansion in Internet penetration in Uganda since 2008, the year of the ICTResearch study, has helped to increase Internet awareness. In particular, a sudden drop in the cost of a fixed broadband connection and the entrance of cheap, Internet-capable mobile phones into the Ugandan market have together increased Internet awareness in Uganda.

⁴⁵ Source: <http://www.allfacebookstats.com/en/country-statistics/uganda/?period=1year>

Figure 32: Mobile subscription growth between 2006 and 2011



b. The growth of mobile networks

At the same time that broadband prices have dropped, the growing availability of mobile Internet could allow many more women to gain online access. Since 2001, mobile phone subscriptions have grown by 1000 percent in developing countries—developing countries accounted for more than 80 percent of the 660 million new mobile-cellular subscriptions added in 2011⁴⁶—and now, the number of mobile phone subscriptions per 100 inhabitants in the developing world is approximately 80. In our four focus countries, subscriptions have increased as well, with explosive growth in Uganda.

The follow-up to explosive mobile-cellular phone use has been rapidly expanding mobile Internet networks. In developing countries, per capita mobile broadband subscriptions grew by an astounding 1000 percent between 2007 and 2011.⁴⁷ Although just 18 percent of our survey respondents accessed the Internet on their phones daily, the number will likely increase, and rapidly. One study predicts that there will be 788 million mobile-only Internet users by 2015, 56 times more than in 2010.⁴⁸ One reason that mobile Internet has grown so quickly is that 3G technology obviates the need for cables and other infrastructure that broadband requires, which means that mobile Internet can cover areas that broadband won't go—including remote, rural areas.

c. The explosion of cheap, Internet-enabled mobile phones

Internet-enabled mobile phones have promise for increasing women's Internet access and use. Simple versions such as feature phones are many times cheaper than computers. And the ubiquity of mobile phones—even those without Internet features—has permitted women to become familiar with a technology that can be used to access the Internet. Through SMS uses such as receiving agricultural market prices and health education, mobile phones have also provided them a sense of the information that might be available on the Internet.⁴⁹ This familiarity suggests a reduced awareness barrier for Internet-enabled phones.

Table 7: Comparative pricing for Internet platforms in focus countries⁵⁰ (USD)

	India	Mexico	Egypt	Uganda
Desktop/Laptop	275	350	325	315
Tablet	80	75	130	600
Internet enabled feature phone	20	25	45	20
Smartphone	40	25	90	100

⁴⁶ ITU World Telecommunications/ICT Indicators database (2012).

⁴⁷ ITU World Telecommunications/ICT Indicators database (2012).

⁴⁸ Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010–2015, February 2011, available at http://newsroom.cisco.com/ekits/Cisco_VNI_Global_Mobile_Data_Traffic_Forecast_2010_2015.pdf

⁴⁹ Text To Change (<http://projects.texttochange.org/en/>).

⁵⁰ As of September 2012. Source for pricing: India: Flipkart; Mexico: BestBuy Mexico; Egypt: E3050; Uganda: Dalberg interview with PC Tech Magazine.



What is mobile Internet?

Although there are three types of Internet capability for mobile phones, the distinctions between them are blurry.

Basic phones—sometimes even dubbed “dumb phones”—are inexpensive and relatively simple devices that allow users to place and receive calls and send texts, but do not have any Internet capabilities. On the other end of the spectrum, **smartphones**—example, the iPhone, Blackberry and Android phones—are becoming increasingly sophisticated, such that they can be considered small computers. In addition to allowing calls and texts, they have GPS and Internet capabilities to support web browsing, location-based services, and apps. Their design also facilitates more advanced functionality: larger screens and full keyboards permit faster interactivity and an easier browsing experience. Some smartphones also offer touch screens, providing an easier mode of Internet navigation. These phones usually run on an advanced computing platform, with high processor speeds. In between mobile phones and smartphones are **feature phones**, which typically look like basic mobile phones, with a numeric keyboard and a relatively small screen, but may have some Internet capacity, such as web browsing or built-in social networking apps. Since these phones are used primarily for calls instead of Internet access, their Internet capabilities often default to “off” and can be difficult to turn on.

For women in developing countries, Internet-enabled phones have some distinct advantages over computer-based platforms such as desktops and laptops, particularly when individually owned and used outside of a shared model:

- **Privacy:** By putting the power of the Internet in women’s hands, Internet-enabled mobile phones reduce the need to visit a cybercafé and the fear that “what we do [in a cybercafé], other persons will see,” as one Indian user put it. The lack of privacy can even carry over to the use of a household computer, where male family members may view, judge, or restrict outright women’s Internet access.
- **Flexibility:** Internet-enabled phones allow connectivity on-the-go, at night, and in the interstices of daily life.

For many women whose Internet access was restricted to business hours, a cybercafé or a school, Internet-enabled phones can provide great convenience.

- **Cost:** For low-volume subscribers, Internet-enabled mobile phones can be far cheaper than the traditional means of accessing the Internet, computers. Data plans also have the potential to be much lower in cost than broadband subscriptions and data. Prices and plans vary greatly by country and region, but an ITU comparison concluded, “While both fixed- and mobile-broadband services are still very expensive in most regions of the world, in developing countries mobile broadband is less expensive (for low-volume subscribers) than fixed broadband.”⁵¹

Although Internet-enabled phones have the potential to broaden women’s Internet access dramatically, they carry some important tradeoffs:

- **Functionality:** Viewing websites and surfing is more difficult on a smaller mobile screen, and many Internet-enabled phones have low memory and processing speeds when compared with computers.
- **Breadth:** Not all websites are mobile-friendly, particularly those which require some data entry or interactivity. Examples include comparison shopping websites, blogging sites, or ticket purchase websites.
- **Interaction:** Numeric keyboards and smaller screens make certain types of interactivity and expression, such as composing blog posts, more difficult
- **User comfort:** Even turning on the Internet on mobile phones can be difficult, and though many handsets now ship with browsers, it’s not clear that mobile users actually employ them. A 2009 study of a mobile-Internet training program for low-income women in Capetown found they encountered numerous difficulties even turning the Internet on, including “complex multistep menus.”⁵² Navigating past

the landing page, which often contained End User Legal Agreements, confounded many of the women: “This gatekeeping made many a user give up as the text did not make sense to them.”

One of the authors of that study, Shikoh Gitau, described in an article for GSMA mWomen that the situation hadn’t changed much over the past two years. “The mobile phone anthem may be getting louder in developing countries,” Ms. Gitau warned, “but unless [multinational organizations], handset manufacturers and website designers acknowledge and address the challenges outlined above, the poorest people who stand most to benefit from the technology, won’t be able to join the song.”⁵³

Design, functionality, and other tradeoffs of Internet-enabled mobile phones may dampen users’ level of Internet engagement, which, as the section *How the Internet benefits women and beyond* described, is an important component to harnessing the benefits of the Internet. Many of the most committed mobile Internet users, like Ugandan Ruth Katiiti, still rely on the computer for at least some things. “The phone is not enough for me,” says the 30-year old teacher and mother of two. “When you want to know something—like if you have an assignment or want to know about children’s things, there is a limit...your phone will not take you deeper.”

It is too early to predict whether Internet-enabled phones will enable women to leapfrog computer technology, whether they should be a bridge or supplement to it, or whether, as Ms. Gitau warned, users may never employ the Internet capacity of their handsets. But it is clear that advancing mobile technologies, proliferating platforms, falling costs, and improving infrastructure across the developing world has broadened access, and will continue to. And this trend raises a host of questions for the future. Among them: To optimize impact, should stakeholders prioritize interventions that increase access or those that deepen use?

⁵¹ ITU, *Measuring the Information Society* (2012).

⁵² J. Donner, S. Gitau, G. Mardsen, *Exploring mobile-only Internet use: Results of a training study in urban South Africa*, *International Journal of Communication*, Vol 5 (2011).

⁵³ S. Gitau, *What stops women accessing the mobile Internet? mWomen*, 2011, available at <http://www.mwomen.org/News/what-stops-women-accessing-the-mobile-Internet>

Rural women: On the frontier of Internet access

Because of limited data on rural women, the challenges of reaching them, and dramatically lower Internet penetration in rural areas, rural women are not the focus of this report. But nearly 53 percent of the women in developing countries live well outside cities, and they face perhaps the most profound challenges to Internet access of anyone in the world. Broadband barely exists in the countryside [see box], and even electricity supply is often sparse and sporadic. Incomes are lower. Living in remote areas, and spending most of the day engaged in time-consuming agricultural and household work, exacerbates the barriers to access that women in metropolitan areas face: lack of awareness, lack of facility, and restrictive gender norms.

When it comes to Internet access, many rural women encounter a double whammy: the power of restrictive norms is greater, while Internet access points are much farther away. Indian women in villages “mostly don’t leave the villages except for very progressive villages,” says Gayatri Buragohain, founder of Feminist Approach To Technology. Men, on the other hand, “are the ones looking for their employment, so they travel out of their villages.” In villages in Rajasthan and Gujarat, in northwest India, women do not step out of their houses and typically must cover their heads to see a man, says Ms. Buragohain. Girls marry around the age of 14, and formal education can even corrode their marriage prospects. But this is not the case in all regions, she points out: in northeast India, for instance, women in villages have more power and autonomy—some communities are even matrilineal—and the Internet gender gap there would likely be “neutral, even negative,” Ms. Buragohain predicts.

Still, for many women in rural India, the hurdles to Internet access are too high for regular use. “If a man wants to access the Internet, the challenge is whether there is an access point. For a woman, it is 400 times more challenging,” says Osama Manzar, head of India’s Digital Empowerment Foundation. “She needs a reason to share with her family why she wants to use it, to start. Then you need the access point. Then the challenge

is time, and maybe you will need an escort. So...unless you have a kiosk that is segregated, like the toilets, but a kiosk that is only for the ladies and is very safe and is maybe guarded by the ladies, it is very, very difficult.”

However, rural women in developing countries have much to gain from even slight connectivity. For example, an evaluation of women-directed ICT trainings over a five-year period in rural Uganda found a shift in women’s attitudes toward non-digital communication. Before the trainings, women “had a traditional thinking that their role was to sit at home and prepare food for their husbands” and that “ICTs such as cell phones and radios were predominantly for men.” But the training prompted women to get their own cell phones and radios and “realize that they can yield better results from farming and other income-generating activities to improve their livelihood” with such technology.⁵⁴

One key to getting rural women online appears to be consistent, long-term training, as well as devices on which they can practice. Interventions for rural women cannot be piecemeal or short-term. “You can’t just put technology in the hands of rural women and expect it to empower them,” says Ms. Buragohain. “It requires long-term investment in teaching them to realize the benefits of something that is foreign and new.” Moreover, without opportunities to practice new technologies, people forget the skills they acquire. This problem is likely exacerbated for women, many of whom have been told throughout their lives that they are not good at learning new technologies.

One way that interventions could counter such internalized stereotypes is by role modeling through women adept at the technology. “If you train a woman to help run the [tele]center, then more women will come to the center,” says Ms. Buragohain. Moreover, interventions that group women together allow members to leverage one another’s strengths and to provide feedback and assurance. In groups, women can provide one another assurance, feedback, and education in mastering a new technology.

Better yet, says Ms. Buragohain, would be microfinance modeled schemes based on technology provision. Grameen Bank, for instance, issued phones to groups of women who then started a phone center business. Stakeholders could do something similar with Internet cafes in rural areas: train women to operate and manage them, and let them make a profit.

⁵⁴ “External Evaluation of ICT Usage and Application by Women Farmers in Apac and Kile districts,” WOUGNET, 2010.

d. Policies and research

A gender gap in Internet policy and research doesn't expressly hinder women's Internet access, but it does restrict its ability to grow. On the policy front, a wealth of government policies already aim at increasing Internet access for the general population, specifically with rapid broadband access. For example, more than 109 governments have adopted national plans to expand broadband access.⁵⁵ But, these plans are often created without reference to the gender-specific barriers that women and girls often face, such as safe access to public Internet sites.

A root cause is the lack of experts at the intersection of technology and gender. Technology policies are often crafted without knowledge of the unique challenges women face, while gender policies are developed without consideration for how technology could be incorporated. As Dr. Nancy Hafkin, Senior Associate at Women in Global Science and Technology (WISAT) and a global expert on gender and technology issues described, "I've seen this in action many times. In Zambia, they were elaborating a national technology policy, and a women's organization gave them some basic gender facts of the country but couldn't speak to the technology issues. We need to make each aware of the issues of the other."

Lack of gender awareness in technologies that support Internet access is further exacerbated by the unavailability of up-to-date gender-disaggregated data on technology use. Across most developing countries, primary data detailing how many women have access to the Internet simply does not exist. Such information is often not captured by the national census. In India, for example, information on use of any technology, including the Internet, is available only at the household level rather than for individuals by gender. Data has been similarly

lacking from market research firms, although there are positive trends indicating a growing awareness of the value of gender-disaggregated information on technology use. However, more data and research are needed to confirm that women do not access the Internet at the same rates as men, or that they constitute a large and underserved market.

Across sectors, governments, market research firms, technology companies, and NGOs are all well poised to better capture this data, and to share what information they have throughout the Internet ecosystem. There are already some efforts underway, such as through the Partnership on Measuring ICT for Development.⁵⁶ A collaborative effort between UNCTAD, ITU, and a host of other multilateral organizations, the Partnership collects and disseminates indicators on ICT access and use, and also helps to train national statistical offices to do the same. With the establishment of the gender working group and the collection of indicators that can be gender-disaggregated, the Partnership is one example of an initiative working to fill this critical data void. We hope this study serves as another.

⁵⁵ ITU (2012).

⁵⁶ <http://www.itu.int/ITU-D/ict/partnership/>



Photo credit: AFP photo 2012
An Afghan woman browses the Facebook website at the
Young Women For Change women-only Internet café, in
Kabul, Afghanistan.



Evolution and expansion of women's online engagement

How do women and girls in developing countries use the Internet? The answer is linked to several important factors: the prevalence and history of Internet in their region, the platforms through which they access the Internet, and a host of demographic attributes. Through these lenses, our study uncovered distinctive patterns in Internet usage.

The longer the Internet has been available in a region, the more likely women are to use it for work and education, in addition to social networking and gaming. Women who access the Internet on multiple platforms—usually phone and computer—conducted a broader array of online activities than mobile-only users, who favored social networking, or computer-only users, who favored email and seeking out specific information. Usage patterns also vary according to demographic factors, such as age, income, occupation, and education level. Younger women tend to be heavy social networkers, homemakers are relatively conservative in their Internet uses, and middle and upper class professionals use multiple platforms for their jobs as well as for educational reasons.

Overall, the most popular websites in each of our focus countries were some combination of the most popular sites globally: Google, Facebook, Yahoo, and YouTube.⁵⁷ But beneath this apparent homogeneity lies a wealth of diversity that can't be captured in "most-visited" data. The Internet opens up a seemingly limitless universe of possibilities, and with 2.4 billion people worldwide online, there is enormous variation in Internet use. Thus, there is no "average" female Internet user, not even in developing

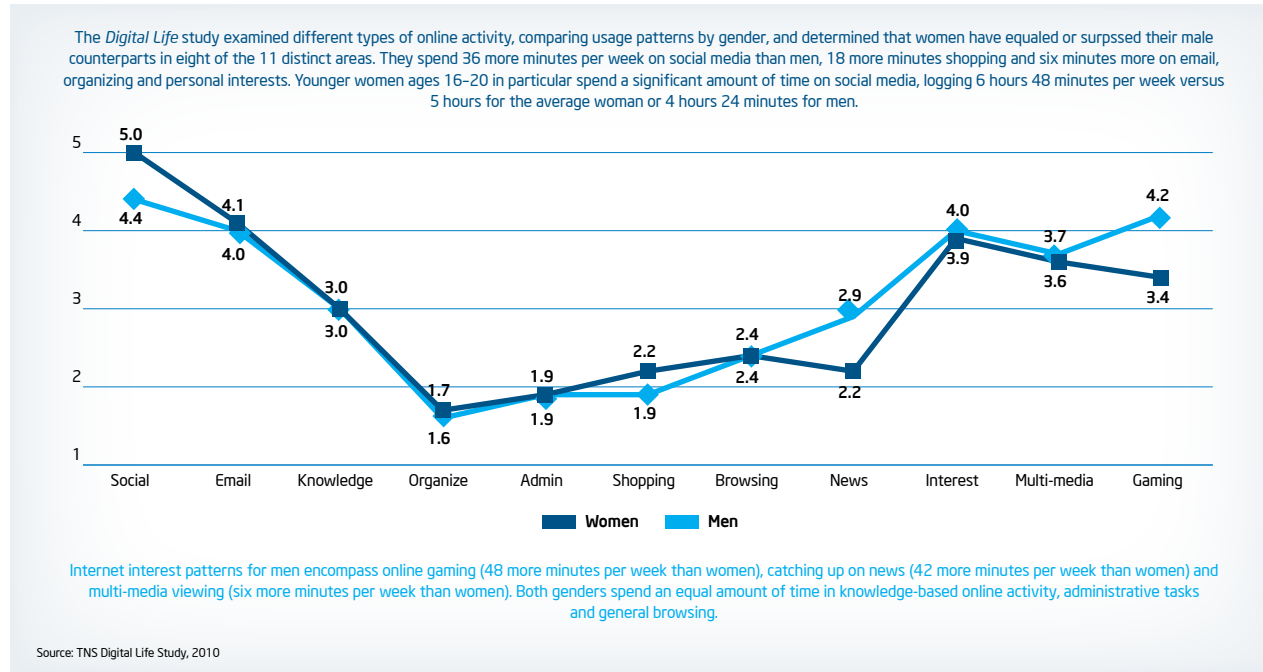
countries. Add to this that many ways to use the Internet still haven't been invented or imagined—for instance, Facebook was rolled out to the public only in 2006—and it's clear that the ways women use and will use the Internet are enormously varied.

Some global patterns have emerged. Overall, women and men tend to use the Internet somewhat differently, according to a 2010 study of 50,000 regular Internet users across 46 high, medium, and low-income countries.⁵⁸ The study found that men spend more time than women gaming, catching up on news, and viewing multimedia. Women, in contrast, tend to spend more time on social networks, making purchases online, and email. The difference in time spent on social networks, in particular, was significant: Women overall spent an average of 5 hours per week on social networks, 36 minutes more per week than men, and young women—those aged 16 to 20—spent more time than anyone else, registering 6.8 hours per week on social networks.

⁵⁷ In Egypt, Mexico, and Uganda, Facebook was the most frequently visited site. In India, Google was. Source: Alexa.com (last accessed October 20, 2012).

⁵⁸ TNS Digital Life Survey (2010).

Figure 33: Hours per week of digital activity by gender



The Internet users in our survey of Egypt, India, Mexico, and Uganda were also avid social networkers, with social networking the third-most popular Internet use among them. For women in developing countries, social networking can provide unpredictable, but sometimes empowering, opportunities for connections with people outside their immediate communities. The other main reasons the women in our survey used the Internet to find information and to email friends and family.

Aside from those, a myriad of ends brought them online: playing games, shopping, marketing, and activism. Exactly *how* women use the Internet correlated with several factors:

- **Internet maturity:** The more developed a country's Internet ecosystem, the more likely users were to use the Internet for work, education, and shopping.
- **Platforms:** Women who accessed the Internet on computers and phones tended to use it for a wider array of activities than either mobile-only users or computer-only users.
- **Demographics:** In many ways, usage patterns reflected the constraints and opportunities women face in their everyday lives, whether they were urban professionals, homemakers, or agricultural workers.

Internet maturity

As described in the section *How the Internet benefits women and beyond*, the longer a woman has been online, the more likely she is to harness the Internet’s benefits. This is also true on the country level: The length of time a country has had a critical mass of Internet users appears to affect user activity. Women in Mexico, which has an older Internet infrastructure than our other focus countries, reported deriving more tangible benefits from the Internet than users in Uganda. They were also likelier to access the Internet through a private computer rather than through a mobile phone or at an Internet café.

Table 8: Internet access growth over time (Number of Internet users per 100)⁵⁹

	1998	2002	2006	2010
Egypt	0.15	2.72	12.55	30.20
India	0.14	1.54	2.81	7.50
Mexico	1.27	11.90	19.52	31.05
Uganda	0.07	0.38	2.53	12.50

Although Mexico is considered a developing country, the Internet appeared there early on, with more than 10 percent of Mexicans online by 2002. By 2006, about 20 percent of Mexicans were online, and in 2010, more than 30 percent were. This is in contrast to a country like India—where just 7.5 percent of residents were online by 2010—or Uganda, which broke the 10 percent user barrier only in 2010.

Today, the Internet ecosystem is relatively “mature” in Mexico, with a higher proportion of users, greater penetration, and a more sophisticated broadband network

than in any of our other focus countries. Thus, the Mexican women in our survey had more years of online experience than others: Nearly 60 percent of Internet users in Mexico said they had been using the Internet for 6 years or more, compared with 6 percent in Egypt, 17 percent in Uganda, and 33 percent in India. More than one-fifth of Mexican users had been online for more than 10 years.

The earlier section *How the Internet benefits women and beyond* described how women were better able to reap tangible benefits from their Internet use, such as information related to education, work, or opportunities, when they had more experience online. This pattern

applied on a country level, as well. Women in countries with longer experience of the Internet appeared better poised to capture tangible benefits from Internet use.

Our survey found marked differences between Mexican women’s uses of the Internet and Ugandan women’s uses of the Internet, with Ugandan women more likely to use the Internet to find news (including celebrity information, local news and world events), to play games, and to email friends and family. Mexican women were more likely to use the Internet for education-related research, work, and accessing government services.

Of course, the maturity of an Internet ecosystem in any given country is strongly correlated with the country’s income: the wealthier the country, the earlier its residents got online. In turn, a country’s income is intertwined with higher human development attainment, such as literacy, education levels, and health. All of these factors position women to use the Internet purposefully, rather than as passive consumers.

Still, the maturity of the Internet ecosystem in our focus countries affected how women used it. As women gained more experience with the Internet, their perspectives on it and the ways they used it changed. One Mexican woman explained how her use of the Internet has changed over time.

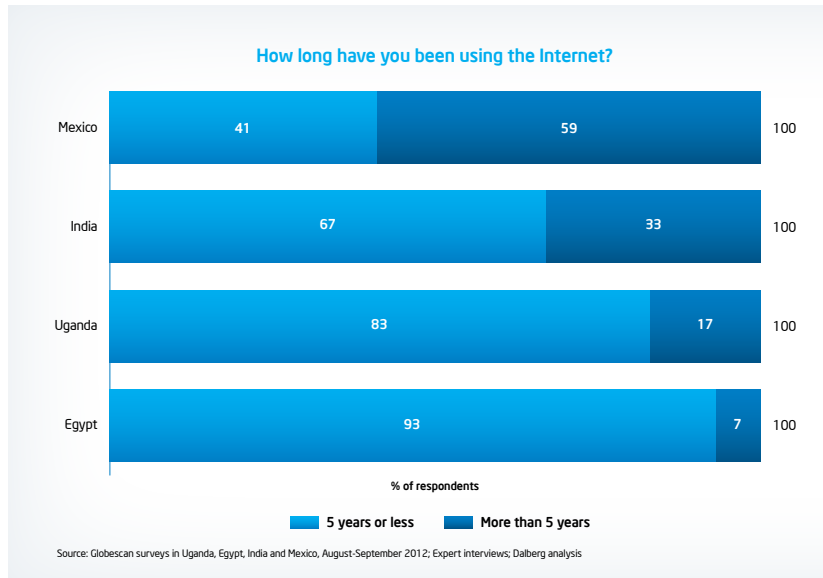
I use it a lot more now. Back then I didn’t like to use it for anything except emails and information on movies. Now, I use it for staying in touch with my friends abroad, for all kinds of research for my job (to create lesson plans) as well as recreational activities (watch movies, series, look up videos, images, social networks, blogs, etc.).

She had even joined an online community of artists, and people around the world followed her work.

Illiteracy, in particular, can pose a significant barrier to women’s online access and use. While it affects both men and women in developing countries, illiteracy disproportionately affects women, as demonstrated in our four focus countries.

⁵⁹ World Bank.

Figure 34: Length of time using Internet



Mexican woman explaining how her use of the Internet has changed:

I use it a lot more now. Back then I didn't like to use it for anything except emails and information on movies. Now, I use it for staying in touch with my friends abroad, for all kinds of research for my job (to create lesson plans) as well as recreational activities (watch movies, series, look up videos, images, social networks, blogs, etc.).

Figure 35: Reasons for Internet usage

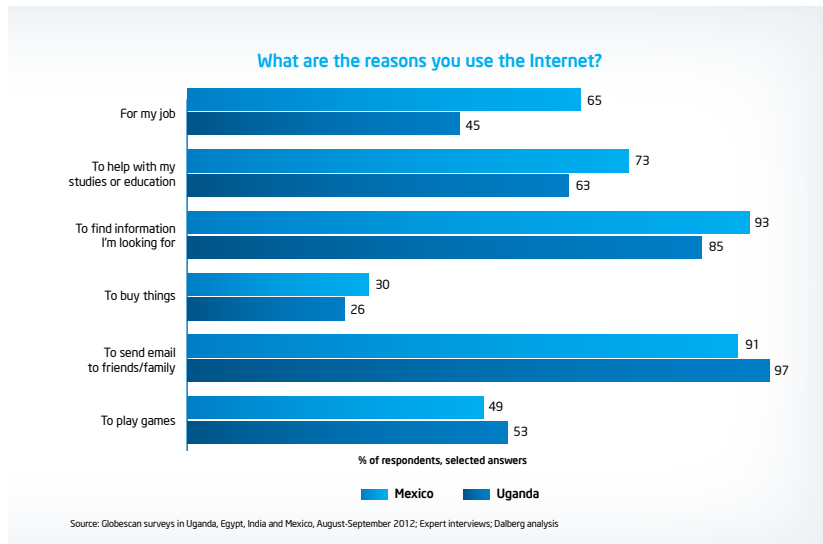
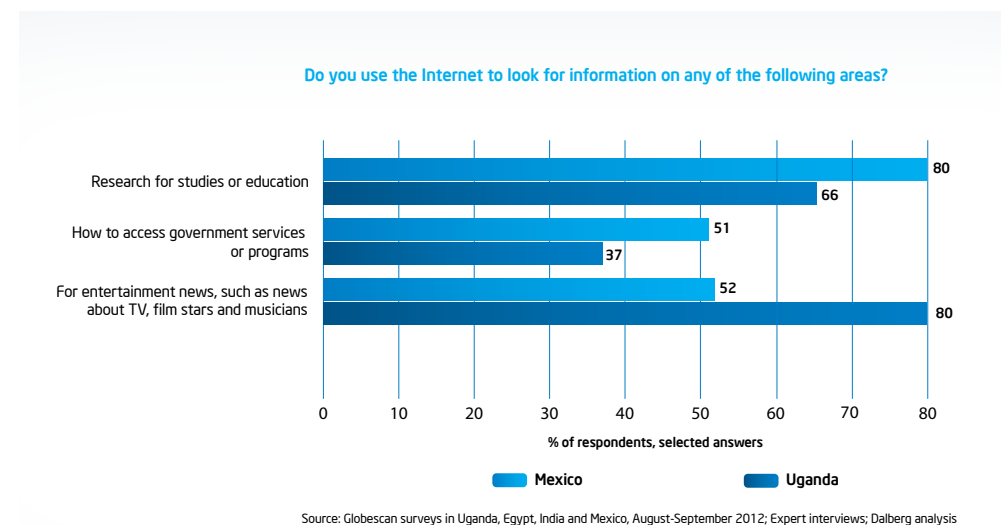


Figure 36: Reasons for Internet usage



Women in countries with mature Internet also likely benefit from more locally available content online. More, and more relevant, government, health, and education resources may be online. Comparing Uganda and Mexico, for example, only 927 domains are registered under the Uganda suffix .ug, but more than 70,000 are registered under .mx domains in Mexico.⁶⁰ Meanwhile, the amount of web content in Luganda, or Ganda—which is spoken by more than 40 percent of Uganda’s population—is negligible.

Our study revealed that the maturity of a country’s Internet has implications for how—and how frequently—women access the Internet. Women in Mexico and India use the Internet more frequently than women in Egypt or Uganda, with 84 percent of Mexican Internet users and 82 percent of Indian Internet users accessing the Internet daily, compared to 64 percent in Egypt and 55 percent in Uganda.

Users in countries where Internet use has been prevalent for longer were more likely to have begun accessing the Internet on desktop or laptop computers, because of the relatively early presence of broadband. With the emergence of mobile Internet, users began to supplement their computer usage with mobile. Indeed, Mexican users in our survey were more likely to use a computer for access than Indian, Egyptian, or Ugandan women, with more than 75 percent of Mexican Internet users employing a desktop or laptop computer for daily Internet access.

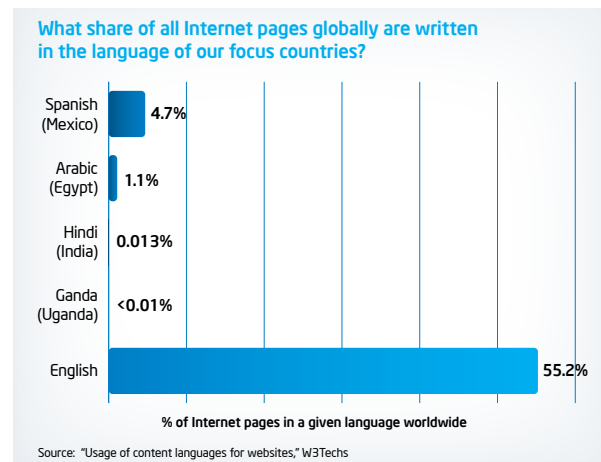
In contrast, in countries with a shorter history of the Internet, women were more likely to rely on mobile Internet as their primary means of access. In all of our focus countries except Mexico, users reported accessing the Internet more frequently on mobile phones than on computers. In Uganda, for instance, 14 percent of users we surveyed used a desktop for daily Internet access, but 22 percent used their mobile phone for daily Internet access.

In countries like Uganda, where computers remain out of reach for many but phones are not, women might begin using the Internet like one young Ugandan: “...my phone had an Internet setting that encouraged me to begin surfing,” she said.

Table 9: Literacy rates for men and women ⁶¹

	Mexico	Egypt	India	Uganda	All Developing Countries
% adult males that are literate	95%	75%	75%	82%	86%
% adult females that are literate	92%	58%	51%	65%	75%
Weighted literacy gap	3%	23%	32%	21%	13%

Figure 37: Available online content in focus country languages



⁶⁰ <http://www.domainworldwide.com/> as of October 20, 2012.

⁶¹ World Bank data. Data is from latest available year for each country.

14%

...of Ugandan users we surveyed used a desktop for daily Internet access...

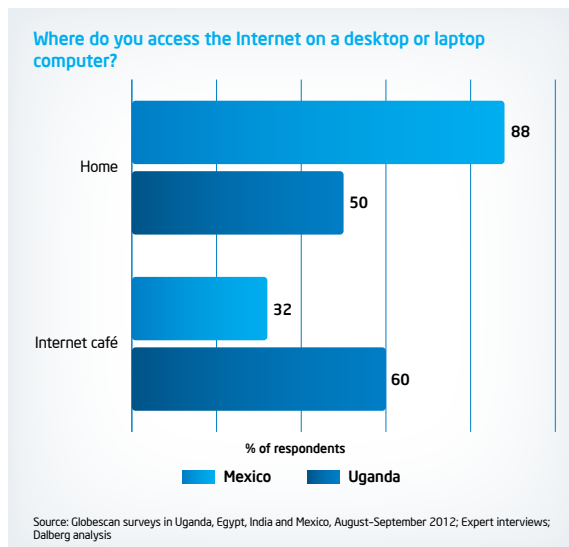
22%

...used their mobile phone for daily Internet access.

In Uganda, only 22 percent of Internet users own a desktop at home, compared with 59 percent in Mexico. Thus for Ugandan women who wanted to access a desktop, the Internet café provided one of the only opportunities to do so. Sixty percent of Ugandan women who accessed the Internet on computers reported doing so at Internet cafes, and only half accessed the Internet at home. In comparison, the vast majority of Mexican computer users accessed the Internet at home, and only 32 percent went to the Internet café.

As described in the section *Understanding and overcoming gender barriers to the Internet*, cybercafés are not always ideal environments for Internet access, especially for women and girls. While shared computers at home may provide for somewhat more privacy, they are also not as private as personally owned platforms.

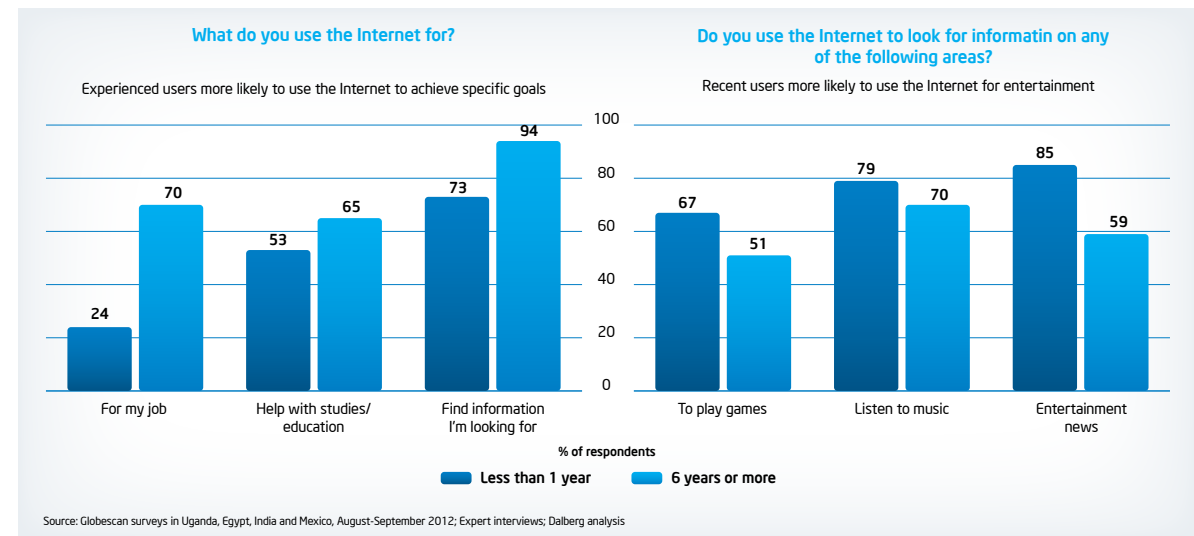
Figure 38: Where women access the Internet, Mexico vs. Uganda



Similar to Internet maturity at the country level, women with longer experience online exhibit different usage patterns than more recent users. The survey identified three uses of the Internet that were correlated with longer experience using the Internet: i) for their job; ii) to help with studies and education; and iii) to find information they are looking for. By contrast, women who had begun using the Internet a year or less ago were more likely to play games, listen to music, and download movies and music than experienced users. Most strikingly, women who had been online for less than a year demonstrated a strong interest in celebrities, with 85 reporting that they used the Internet for “entertainment news, such as news about TV, film stars, and musicians.” By comparison, only 59 percent of women who had been online for five or more years used the Internet to find celebrity news.

These results may partly reflect changing demographics for Internet users in some countries, as younger women tap the advantages of mobile Internet. But even for younger women using computers, growing familiarity with the Internet can lead to a diversification of online interests and uses. As one 25-year-old woman in Mexico City described, “I use [the Internet] a lot more now. Back then I didn’t like to use it for anything except emails and information on movies. Now, I use it for staying in touch with my friends abroad, for all kinds of research for my job...as well as recreational activities.” These usage patterns correspond with the differences in benefits described by experienced and recent Internet users in the section *How the Internet benefits women and beyond*.

Figure 39: Usage differences by length of use



44%

Overall, 44 percent of users across our four focus countries used only a computer, either desktop or laptop, to access the Internet.

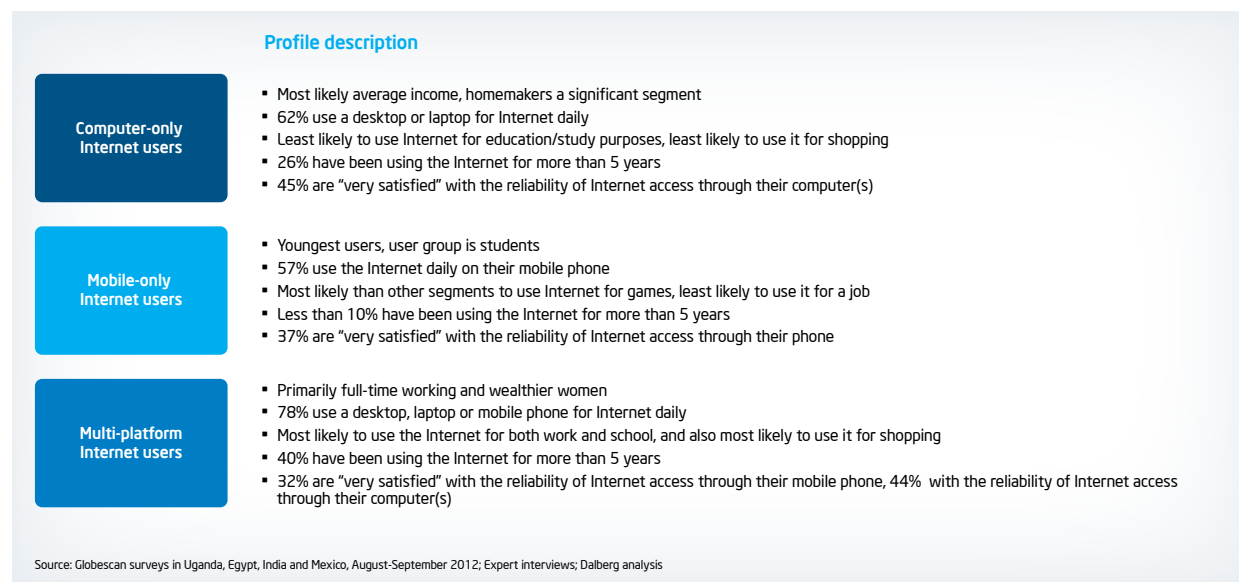
Platforms/How women access influences how they use it

The rapid pace of technological innovation has opened up new ways to access the Internet, including tablets and mobile phones. Internet users in our survey continued to rely on desktops and laptops for Internet access. A small proportion of women used only mobile phones. However, a sizeable proportion combined platforms for Internet access, using both

computers and mobile phones. Compared to single-platform users, these multiplatform users reported that they used the Internet for a broader array of activities, extracted more benefits, and were more satisfied with the speed, reliability and cost of their Internet access.

Overall, 44 percent of users across our four focus countries used only a computer, either desktop or laptop, to access the Internet. Eleven percent used only a mobile phone. None used only a tablet. Approximately 44 percent used

Figure 40: Profiling Internet users by usage platform



multiple platforms, usually a combination of mobile phones and computers.

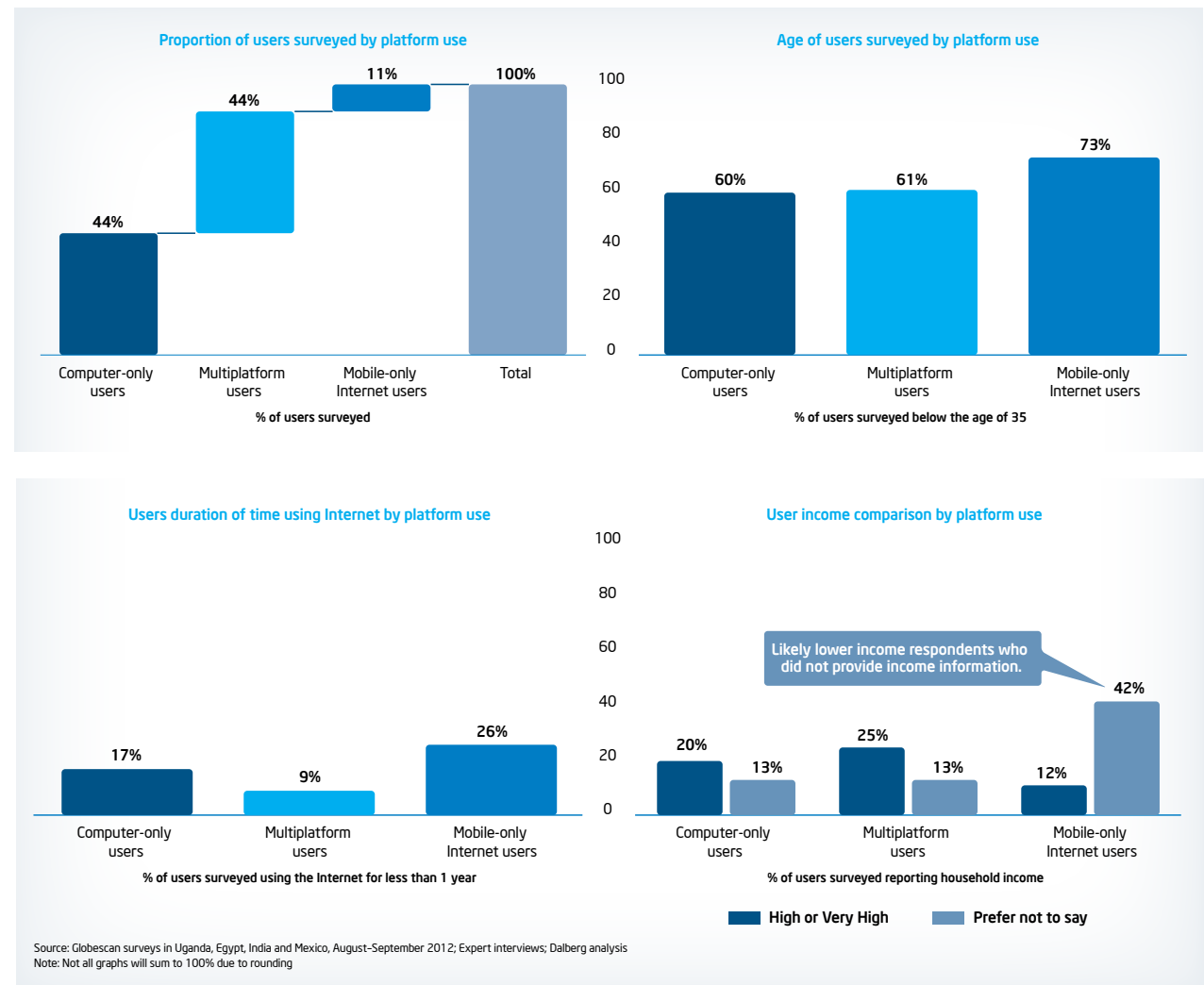
Our survey revealed important differences among computer-only, mobile-only, and multiplatform users.

Computer-only users included a large proportion of homemakers. Compared with multiplatform users, computer-only users sought less from the Internet, using it mostly to check email or to seek out specific parcels of information.

Mobile-only users, 11 percent of Internet users surveyed, tended to be much younger than other users: 73 percent were under the age of 35, compared with about 60 percent of computer-only or multiplatform users. They had lower incomes and were more sensitive to costs than women who used computers only. Many mobile-only were fairly new to the Internet, with more than a quarter having started to use it within the past year, and they tended to use the Internet for social networking and keeping up with people and interests. While mobile-only users used the Internet almost as frequently as computer-only users, most believed they could cope without the Internet.

Multiplatform users were more engaged than either computer-only users or mobile-only users. Almost half had used the Internet for more than five years, and many had been online longer than a decade. They strongly believed that the Internet was a fundamental right of all people, and enjoyed strong family support for their Internet use. Multiplatform users engaged in a broader array of online activities than single-platform users. Perhaps not surprisingly, they tended to have higher incomes than computer-only users or mobile-only users.

Figure 41: User comparison by platform



As described in the section *Understanding and overcoming gender barriers to the Internet*, each of the platforms for Internet access has advantages and drawbacks, and some lend themselves better to some activities than others. With large screens, high processing speeds, and full keyboards, computers provide more functionality and ease than mobile phones. But if a woman can access a computer only at home—as was the case for many homemakers in our survey—her access may be subordinated to that of men, monitored by them, or even outright restricted. She may lack the privacy to look up sensitive information, such as on reproductive health.

Internet-enabled mobile phones, on the other hand, can fill that gap, allowing for privacy, autonomy, and flexibility. But browsing and searching is usually not as easy on mobile phones. Many multiplatform users said that computer Internet access was faster, more reliable, or cheaper than mobile Internet access. As one user in India told our surveyors, she usually prefers to access the Internet on a computer, which she “can use...for a long time without any stress, and it’s easy to work due to the big screen.” Mobile Internet, she said, was better for traveling.

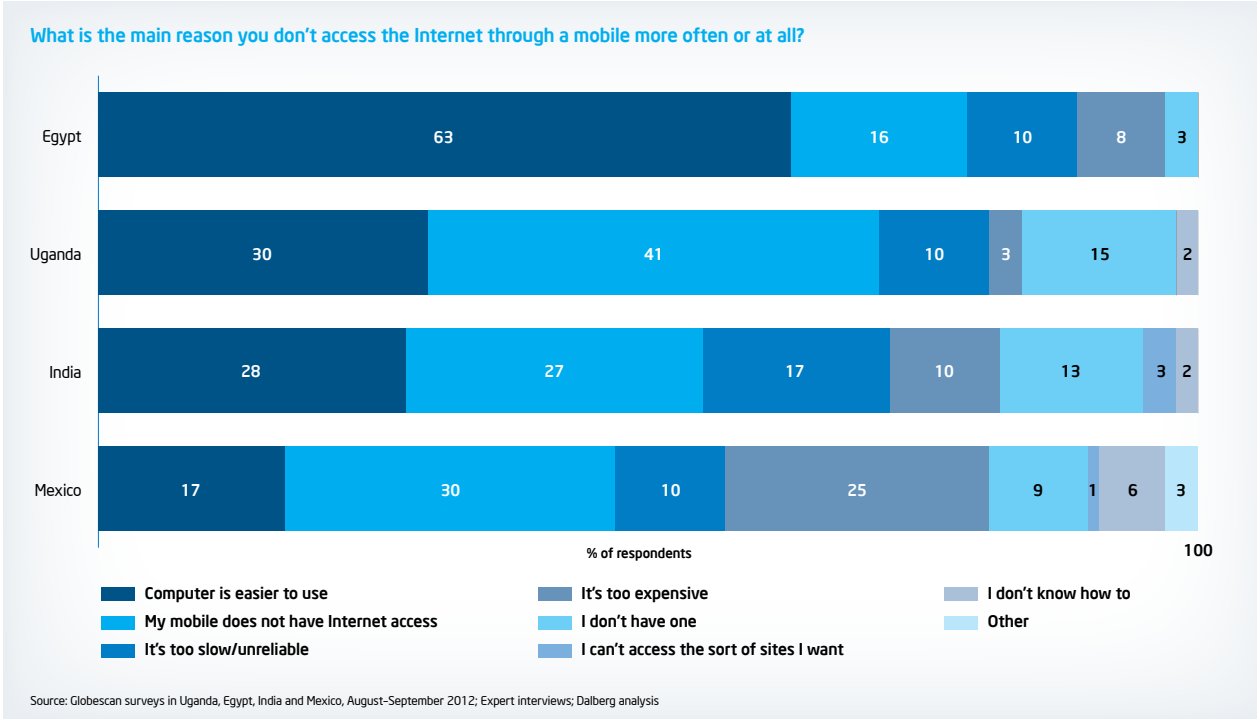
Usage differences by platform

Compared to single-platform users, multiplatform users were more likely to use the Internet to help with their studies and education, for work, and to shop. Mobile-only users were more likely to use the Internet to access Facebook and other social networks and to play games compared to computer-only or multiplatform users. As one might expect, platform preferences varied according to users’ needs. Those surveyed on the benefits of laptops tended to cite their portability, as did one Mexican woman who stated, “...I honestly prefer to use my laptop because I can move it from room to room...It is more comfortable to choose where you want to work or where you want to

relax [as opposed] to being constricted to one desk or one room.” However, other respondents cited the value of desktops because, “...it’s big compared to the rest, you get a bigger view—some laptops are so small...the same [for] mobile phones.” Another respondent, however, cited the ease of accessing the Internet via desktop or laptop, but noted, “...in time of traveling [I] like to access on [my] mobile.”

As noted in the section *How the Internet benefits women and beyond* (see page 30), the platform a woman uses to access the Internet also plays a role in the benefits experienced. Multiplatform users appeared to extract slightly more benefits from the Internet than mobile only or computer only users. But mobile-only users managed to do a lot on their handsets. Nearly half reported that they had used the Internet to search for and apply for a job. More

Figure 42: Barriers to Internet access through mobile phone

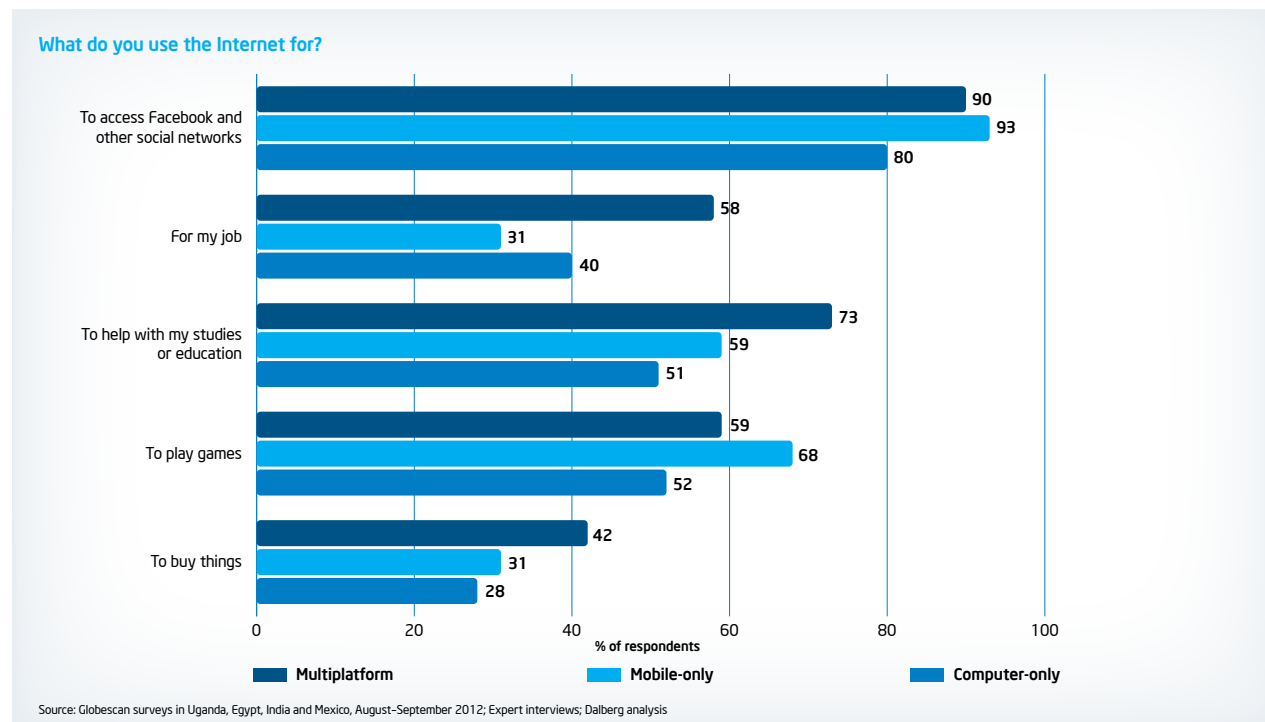


than half said that the Internet had provided them with greater job opportunities through social networks. Thirty-one percent said they had used the Internet to generate additional income, and 79 percent said they had used the Internet to improve their education or studies.

At the same time, women who relied solely on their mobile phones for Internet access expressed less satisfaction about their platform's speed, reliability, and cost than

computer users did. Only 39 percent of mobile-only users said they were "very satisfied" with the speed at which they accessed the Internet (compared to 46 percent of computer users); 37 percent said they were satisfied with its reliability (compared to 45 percent of computer users); and 31 percent said they were satisfied with its cost (compared to 41 percent of computer users).

Figure 43: User differences by platform



31%

...said they had used the Internet to generate additional income.

79%

...of women said they had used the Internet to improve their education or studies.

42%

...say the Internet is "essential" to their daily lives.

Multiplatform users appeared more attached to the Internet than either computer-only or mobile-only users, with 42 percent calling the Internet "essential" in their daily lives.

In comparison, 37 percent of mobile-only users said the Internet was essential, and 30 percent of computer-only users said the Internet was essential.

Figure 44: Internet speed is a priority for users; mobile users are less satisfied with speed as well as reliability and cost, relative to computers

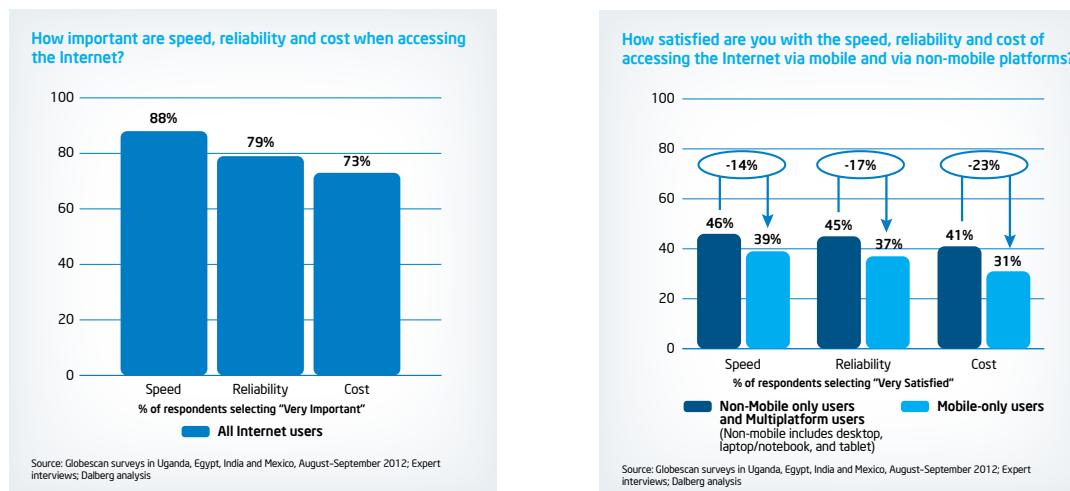
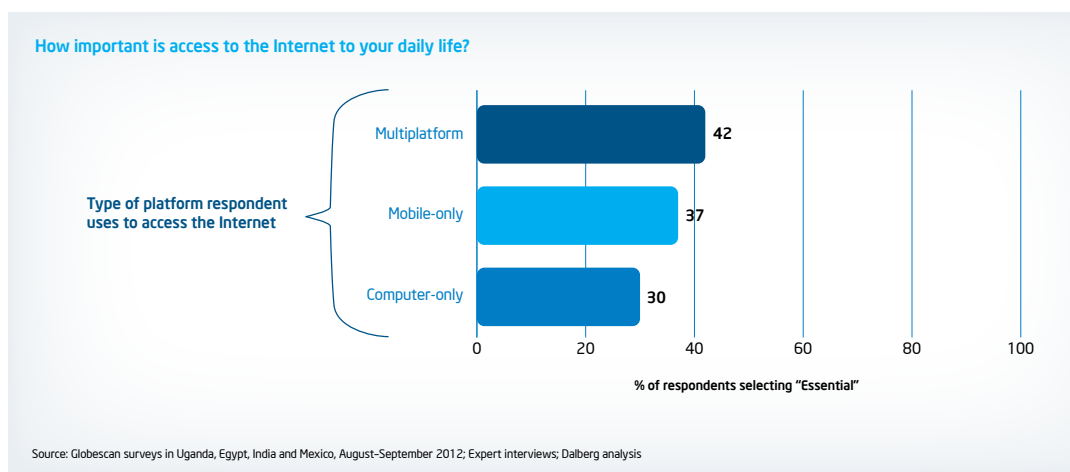


Figure 45: Perceived value of the Internet by platform





Hemis.FR/AFP photo 2012
Young girls from the Black Hmong minority inside an
Internet café in Sapa, Vietnam.



User Profile:

Migrating from internet cafes to mobile access

"I cannot tell you the time I spend on the Internet...I can spend many hours a day but only for 5-10 minutes at a time. I really use it as much as possible."

Ruth Katiiti, Age 30

Mother of two children
Teacher in Kampala, Uganda

Ruth Katiiti used to go to Internet cafes regularly, but hated the experience. "It was not very convenient. You had to go far down the road, and you could not use it all the time. Before I had to worry about going to the cafes in the middle of the night." And in addition to the inconvenience, it was expensive as well.

All that changed when Ruth began to use the Internet on her mobile phone, an increasingly common phenomenon in Uganda. "Most of the phones, especially the original Nokia phones, have Internet" now, Ruth explains. She raves about her own, a Nokia x201 smartphone. "It's a lovely phone. I like it because it is user-friendly and I know the menu," Ruth says, also noting that it is comfortable to use and not too big.

With access to the Internet at her fingertips, Ruth finds herself using the Internet much more often throughout the day, for a variety of purposes. In addition to looking up information for her family and helping her children with homework assignments, Ruth also uses the Internet for streaming music and social networking sites. She's a particular fan of the mobile site 0.facebook.com, which allows Facebook access without data charges. "You know how women like to get tight with their savings," she exclaims, laughing, "so women like to use it more than men." And as a mother of two, including an infant, the benefits of having access all the time are particularly pronounced. "Here I can use the Internet at any time, even at two am..." when she is up in the night caring for her son. Ruth surprised herself in realizing how much time she was spending online. "Oh my god!" she exclaimed, laughing. "I cannot tell you the time I spend on the Internet...I can spend many hours a day but only for 5-10 minutes at a time. I really use it as much as possible." She hazards an estimate. "Maybe four hours a day?"

For Ruth, the convenience and flexibility of mobile Internet is matchless. But she still finds herself accessing the Internet on computers occasionally as well, in order to print or on a friend's laptop. And ultimately, Ruth finds that she still wants to use the Internet on a computer. "The phone is not enough for me. [When] you have an assignment or want to know about children's things, there is a limit where you just see pictures but your phone will not take you deeper." As of yet, Ruth does not have a computer at home, noting that "there are very few homes in Uganda that have computers or laptops."

After first accessing the Internet in high school, Ruth has become an ardent advocate for Internet use among her friends in Kampala, and she recognizes the benefits it has brought to her own life. "The Internet has changed my life, because now I am using it all the time. You can read newspapers without going to buy them, you can get information from another country, and you can get everything at home." But to her, the key to having more women use the Internet is to encourage its use through a mobile phone. "People used to think that you really needed to know how to use a computer but now that is not the case."

Demographics and content preferences

Usage patterns also vary by a host of demographic factors, including income, age, occupation, and level of education. Our analysis segmented women and girls into five distinct groups—urban professionals, urban adolescent girls, urban homemakers, low-income urban women, and rural women and girls—and revealed that usage patterns in some ways reflect the constraints that women face in their everyday lives. Among our findings: urban professional women have access to a more powerful and broader variety of platforms than others, urban homemakers tend to be conservative in their Internet use, urban adolescent girls use the Internet mostly for social networking, and low-income urban women tend to have very limited access to the Internet.

Although rural women account for a large proportion of women in developing countries, Internet use in developing countries tends to cluster in urban and peri-urban areas. Therefore, our survey focused on metropolitan areas. However, we gathered data on rural usage patterns from secondary research, non-governmental organizations working with rural women on technology issues, and selected interviews with women in the field.

While there were some commonalities among these segments—for instance, large proportions among these segments reported using the Internet for social networking, emailing, and finding information—there were also important differences. Each of these groups is described in turn.

Urban professional women: These women work outside the home and have a broad array of technological tools at their disposal. The majority—56 percent—use multiple platforms to access the Internet. Thirty-six percent used only a computer, and eight percent accessed the Internet

only on their phones. Forty-one percent said the Internet was “essential” to their lives.

Few within this group who did not use the Internet cited lack of family support as a barrier. Rather, the non-users in this group stayed offline because they weren’t comfortable with technology, they weren’t interested in it, or there was no one to show them how to use it.

The vast majority of urban professionals, 82 percent, used the Internet for their jobs. Almost 60 percent reported that they used the Internet to help with their studies or education, and to download music or films. A greater proportion of urban professionals than women in other segments, 47 percent, used the Internet for shopping.

Urban adolescent girls: Forty-eight percent of urban girls used only a computer to access the Internet, and an almost equivalent proportion used multiple platforms—usually phone and Internet. A small proportion, 5 percent, used only mobile phones to access the Internet. Thirty-seven percent believed the Internet is “essential” to their lives.

Lack of access points was a top barrier for urban girls, with 27 percent reporting the reason they did not use the Internet was that they “don’t have easy access to the Internet.” Urban girl non-users were the only demographic segment to cite lack of easy Internet access as a major barrier. A relatively small proportion of non-users, 19 percent, said they stayed offline because they did not need access to the Internet. Another 19 percent said their families opposed their using the Internet—though a far greater proportion, 55 percent, said their families supported their using the Internet.

Most young Internet users—84 percent—said they used the Internet for their studies or education. Eighty-one percent said they used it to download films or music.

Urban women in the home: Most urban homemakers use computers only—and most computer users rely on desktops rather than laptops. Thirty-five percent of homemakers who used the Internet said it was “essential” to their daily lives.

Although 79 percent said they used the Internet for social networking, this was a far lower proportion than other groups in our survey. Most homemakers who used the Internet, 91 percent, said they used it for email. Eighty-three percent said they used the Internet to follow their interests, and 84 percent said they used it to find information. About two-thirds said they used the Internet to download films and music.

Although 15 percent of homemakers who did not use the Internet reported that they face family opposition to it, 41 percent said they were not interested in the Internet and 28 percent said that they didn’t need access to it.

Low-income urban women: Internet users in this segment tend to be computer-only users (49 percent), although a nearly equivalent proportion (46 percent) used multiple platforms. Only 29 percent of low-income urban women considered the Internet essential to their daily lives.

These women faced more family opposition to their use of the Internet than most other segments, with 18 percent of non-users reporting that their families either opposed or strongly opposed their using the Internet. Twenty-eight percent—a higher proportion than in other segments—reported that they were unfamiliar or uncomfortable with the technology. But, as with urban women in the home, significant barriers to Internet use were lack of interest (24 percent) and the perception that they didn’t need access to the Internet (29 percent).

When they do get online, low-income urban women tend to

use the Internet for email, finding information, and social networking, like other demographic groups. Almost 60 percent also reported they use the Internet to download music or films.

Rural women and girls: As noted, our survey did not focus on this segment, largely because Internet access in developing countries tends to cluster in and around cities. Rural women and girls face large obstacles to getting online, as described in detail in the section *Understanding and overcoming gender barriers to the Internet*. Their isolation and the lack of population density in rural areas makes it harder for Internet providers to extend network coverage to them, and where access does exist, it is often too expensive—especially in comparison to relatively lower rural incomes—and requires inputs, such as consistent electricity, that may not exist in these areas.

Data regarding the percentage of rural women with Internet access is sparse and often unreliable. To the extent that rural women and girls have access to the Internet, it is likely through an Internet-enabled mobile phone. Internet-enabled phones come with their own barriers, as described on page 64, however, and it is unclear how many women can actually turn on the Internet features.

Cultural pressures and gender-related norms may play a greater role in rural areas than in urban areas. And a greater overall barrier may be the very foreignness of the Internet. On the other hand, a top driver of rural women to the Internet may be for income opportunities. “Many of the women that come to us to learn about the Internet come because their husband has lost his job,” says Melva Sangri, the founder of MamaDigital, an organization in Mexico that promotes mothers’ digital literacy.

The future of the Internet for women in developing countries

As more women in low and middle income countries move online, their uses of the Internet are bound to change—likely in ways that we can’t yet imagine. The global rollout of Facebook over the past few years has connected women in developing countries to others in ways most would not have predicted. The popularity of blogging websites, with content created by and for local women, suggests a demand for more content targeted at women in developing countries. More options for interactivity would likely draw more women online. Because so many women around the world lack their own computer, there is a clear demand for inexpensive, flexible, and private platforms for Internet access. Some large web companies, including Wikipedia and Facebook, are leveraging the comparative pervasiveness of mobile phones by making Internet content and interaction available through non-Internet mechanisms, such as SMS.

Social networking

Although social networking sites such as Facebook are sometimes considered less productive than alternative uses, they can be very beneficial for women in the developing world, for whom isolation is a barrier. Social networking platforms can provide them a window onto opportunities they may not have considered for themselves, as well as external validation for ideas that may not be accepted within the norms of their own families and communities.

Such was the case for members of a Haitian advocacy group that combats gender-based violence. Many of the women had never used a computer. But when Digital Democracy, a US-based NGO, introduced the group to the

Internet, the women found opportunities to connect with others. Introduced to Facebook, one of the first things many women did was to “friend” the foreign workers they had come to know in Haiti. Foreign connections provided the women support, implicit encouragement, and validation. It also provided opportunities to network and advocate within Haiti’s powerful NGO community for their cause.

The continued popularity and expansion of social networking sites can help encourage more women and girls to go online in the future, encouraged by their friends and family who are already using these sites, as well as by the ease of access. Social networking sites are by their very nature full of relevant content in local languages, and so can serve as an ideal launching pad for further exploration of the Internet.

Locally relevant, women-focused content

Locally relevant content can drive women online. And in Egypt, two female entrepreneurs saw a huge opportunity in the lack of culturally appropriate content for mothers and mothers-to-be. One of the main online resources Egyptian mothers used was an international website that had been translated into Arabic, but had no local content. The other was an Arabic forum, but it lacked information from accredited experts. Thus, the entrepreneurs, Yasmine El-Mehairy and Zeinab Samir, saw an opening to provide locally tailored content informed by doctors and parenting experts.⁶² In another example, Yahoo! She launched in the Philippines in March 2012, in coordination with International Women’s Day, to bring relevant content to Filipino women online. Arlene Amarente, Country Ambassador and Sales Director of Yahoo! Philippines was quoted, “...the site will bring locally relevant content that speaks to everyday Filipino women on topics that matter most to them whilst offering real answers—be it through tips, tools or practical

advice to make their daily lives manageable and more productive.”⁶³

But many developing countries do not have mature Internet ecosystems through which entrepreneurs can assemble the resources to start up successful web enterprises, including capital, mentorship, and data-based business strategies. Recognizing these challenges, Ms. El-Mehairy and Ms. Samir secured training and mentorship through international competitions and forums. Last year, they launched their site, SuperMama, which has seen a good deal of success with expected 2011 turnover of \$1.6 million.⁶⁴

⁶² N. Messieh, Supermama.com, an Egyptian startup benefiting from an international ecosystem, TheNextWeb.com, Oct. 9, 2011, <http://thenextweb.com/me/2011/10/09/supermama-an-egyptian-startup-benefiting-from-an-international-ecosystem/>

⁶³ “Yahoo! She launches in the Philippines,” GMA News. March 9, 2012.

⁶⁴ <http://www.bbc.co.uk/news/business-16824208> (to make ref later)

Case Study:

Encouraging Egyptian mothers with a website just for them: SuperMama⁶⁵



Image: Screenshot of SuperMama.me homepage.⁶⁶

In 2010, Egyptian entrepreneur Yasmine El-Mehairy went looking online for pregnancy advice for her sister-in-law. She couldn't find a comprehensive, straightforward site for trusted pregnancy advice. Worse, much of the amateur advice she found was contradictory. It was then that the idea for SuperMama, a website offering tips and expert advice for mothers and mothers-to-be began. Called "the first of its kind in the Arab world," by the BBC, SuperMama today offers advice on pregnancy, motherhood, work/life balance, and a wealth of other topics of interest to Egyptian moms. It is available in Arabic and includes a popular discussion board for sharing parenting advice, household tips, and recipes.

SuperMama serves as a model for a way in which women-targeted content can be developed and thrive, even in

markets where such content is rare, and the overall Internet ecosystem still nascent. Key to SuperMama's success? Startup and tech competitions, which connected the Yasmine and her co-founder, Zeinab Samir, with funding, advice, and mentorship. After investing their life savings in the business, the pair first turned to the MIT Arab Enterprise Forum Business Plan competition, where they became semi-finalists. They have since won the NexGen IT Competition, an innovation competition based in Poland, and Arabnet Cairo; and have placed as a semifinalist in the Google Ebda2 Competition.⁶⁷ Along the way, SuperMama has gained valuable funding, training and mentorship through these innovation competitions, suggesting such models can be valuable drivers of homegrown content for women. SuperMama plans revenue of \$1.6 million by the end of year one, and has already succeeded in becoming a much-needed online resource for Egyptian mothers.

⁶⁵ SuperMama.me. "My Business: Egyptian mothers on the net," BBC News, 2012. "SuperMama: An Egyptian startup benefiting from an international ecosystem," TheNextWeb, 2011.

⁶⁶ Supermama.me

⁶⁷ Curley, Nina. "Entrepreneur of the Week: Yasmine El-Mehairy of Online Parenting Community SuperMama," Wamda.com, April 24, 2012. Accessed at <http://www.wamda.com/2012/04/supermama-the-first-arab-online-parenting-community-entrepreneur-of-the-week>.

User interactivity

There are also less formal opportunities to increase the quantity of locally relevant and accessible content for women. As web entrepreneurs have recognized for many years, user interactivity is a key way to foster page hits and user loyalty, as well as to generate local content. In addition to social networking sites, blogging websites provide women with an outlet for expressing themselves and interacting with other people—both from their local community as well as globally—through the comments that can be left on individual blogs. Further expansion of blogging sites, coupled perhaps with training to encourage more women to express themselves online, could quickly grow the number of web pages with information specific to a given community or local issue. Even today, blogging website blogspot.in is ranked #6 for popularity in India,⁶⁸ and two other blogging websites rank in the top 20. Blog development websites are similarly popular in Egypt, where the top blogging site is the 7th most-viewed website, in Mexico (#13), and in Uganda (#10).

An increasing amount of evidence, including that women spend more time on social networks than men do, suggests that women favor communication online rather than solitary activities, such as playing games. Respondents cited a wide variety of interactive websites as preferred destinations, including Google Maps to draw up architectural plans, filling out surveys online to earn extra income, and using translation websites to broaden their access to online and offline information. The trend towards more interactive use of the Internet will likely continue as women spend more time online and even basic Internet platforms can support access to more sophisticated websites.

Platform access

Over and over again, women in our survey recounted the numerous barriers they face to accessing the Internet on computers. Although broadband subscriptions have

increased, their price is still beyond the means of most women in developing countries. Many women don't have computers in their homes; even those who do may find their access limited or subordinated to that of men. Cybercafés are often deemed not appropriate for women.

Therefore, the explosion in mobile subscriptions provides an important opportunity to expand women's Internet access beyond the many uses and benefits of computers today. Although mobile Internet in the developing world is still in its infancy, its existence provides an opportunity to increase women's Internet usage, while promoting autonomy and flexibility, and safeguarding their privacy. Over the next years, we will likely see an increasing convergence on platform design, as mobile phones grow increasingly sophisticated and allow for deeper engagement with the Internet.

The convergence of SMS platforms and the Internet is another area to watch. Already, many of our survey respondents reported using computers to send free SMSs. Moreover, Facebook and Wikipedia have, over the past year, deployed SMS-based versions of their content in select developing country markets. The sites O.facebook.com and zero.wikipedia.com offer free data access to those sites on Internet-enabled phones. To further its efforts to increase its user base, Facebook even is testing incentives such as 50 rupee phone cards in India for new Facebook users.⁶⁹

⁶⁸ <http://www.alexa.com> as of November 19, 2012.

⁶⁹ Ingrid Lunden, From Zero To Talktime Hero: Facebook Tests A New Way To Sign Up Users In India, Offering USD 1 Mobile Voice Credits, www.techcrunch.com, Oct. 17, 2012, <http://techcrunch.com/2012/10/17/from-zero-to-talktime-hero-facebook-tests-a-new-way-to-sign-up-users-in-india-offering-1-mobile-voice-credits/>



Case Study:

“The Free Encyclopedia,” available for free with mobile Internet⁷⁰



Just a generation ago, the reams of knowledge contained in encyclopedias were available to a privileged few: libraries in developed countries and individuals who could dispense hundreds of dollars for a set. The Internet revolution changed that—providing an abundance of information to anyone online.

Of course access to the Internet is not equal or evenly distributed. Access costs pose a serious barrier to people with low incomes in developed countries, to wide swaths of the population of developing countries, and especially, as this report has described, to women in developing countries. A new effort by Wikipedia aims to bring an encyclopedia's worth of knowledge to anyone with a cell phone. Data charges don't apply.

Wikipedia Zero, launched by the Wikipedia Foundation in 2012, provides free access to Wikipedia's millions of informational entries to customers of certain mobile operators. By October 2012, Wikipedia Zero had launched in Malaysia, Thailand, and Saudi Arabia, and was moving forward with testing and rollout to at least another eight countries, including Bangladesh, Kenya, Tunisia, and Uganda. Although Wikipedia Zero is less than a year into live deployments, it believes it can reach more than 200 million cell phone holders. By next year, it plans to have the capacity to reach more than half a billion mobile users.

One benefit of Wikipedia for women in developing countries is that its entries are available in a number of languages. But this is a continuing challenge, as Wikipedia Zero acknowledges. Although Wikipedia was available in 285 languages as of November 2012, most entries are in the world's most common languages, including English (more than four million articles), Spanish (almost a million articles), and Chinese (half a million articles). By comparison, Wikipedia had fewer 25,000 articles in Swahili, although an estimated 100 million or more speak the language.⁷¹ For those new to the Internet, access to content

in an easily understood language will be critical to ensuring that women see the value of being online. Other questions remain. For example, will women using Wikipedia Zero see that site as the 'end state' of their Internet experience or move on to explore more of what the Internet has to offer—even if it means paying the required data charges?

Wikipedia is following in the footsteps of Facebook, which launched its own Zero initiative in 2010.⁷² Though Facebook Zero offers a different user experience than its regular site, by operating in text-only mode, its objective is similar to Wikipedia Zero's: to dramatically expand the audience for its content. Google has also recently launched a similar initiative. Its Google Free Zone service is currently available in the Philippines and allows users to access Google Search, Gmail and Google+ on Internet-enabled mobile phones, without needing to pay any data charges.⁷³ The opportunity for initiatives such as these to impact the gender gap is significant. They provide easy access to relevant and popular content, across a wide span of languages, through a device that many women already can access and use. The hope is that that they will encourage women to 'try out' the Internet, and verify that it can be a valuable resource for them to use on a regular basis.

Our respondents also told us, however, that computers, whether laptops or desktops, are important to them because they provide better functionality, ease of use, and opportunities for engagement. Thus, even in the wake of the mobile Internet explosion, computers and mobile devices can be viewed as having highly complementary purposes.

⁷⁰ "The Next Billion Users: Wikipedia on mobile," Amit Kapoor, Wikimedia Foundation. MediaWiki.

⁷¹ Stanford University. <http://swahililanguage.stanford.edu/>

⁷² Murlidhar, Sid. "Fast and Free Facebook Mobile Access with 0.facebook.com". The Facebook Blog. May 18, 2010. Accessed at <http://www.facebook.com/blog/blog.php?post=391295167130>.

⁷³ Reisinger, Don. "Google Free Zone aims at connecting developing countries." CNet. November 8, 2012. Accessed at http://news.cnet.com/8301-1023_3-57546899-93/google-free-zone-aims-at-connecting-developing-countries/.





Opportunities and implications for action

The expansion of broadband and explosion of Internet-enabled mobile phones have begun to erode some of the toughest barriers to Internet access. They will continue to do so, and stakeholders must support these structural shifts and even help them to accelerate. [Most of our recommendations aim at removing the particular obstacles that women and girls face accessing and engaging with the Internet.](#)

These obstacles are many, and, as this report has detailed, they are profound. Among women and girls not yet using the Internet, 23 percent remain [unaware](#) of the Internet or how it might benefit their lives, even in urban areas where the Internet access has become more affordable.⁷⁴ Lack of technological [ability](#) is a barrier for 23 percent as well; without exposure and opportunities to practice, many women do not develop skills to harness the potential of the Internet to improve their lives.⁷⁵ Eight percent described how [cultural norms](#) hinder their use of the Internet, whether through unfriendly environments at Internet cafes, outright prohibition, or implicit mores that restrict women's participation in the public sphere.⁷⁶ Meanwhile, our report revealed the danger that, without [deeper engagement](#), women's Internet use will remain limited to social networking and emailing friends and family.

These gender-specific barriers will not vanish on their own. Rather, removing them will require concerted, long-term effort on the part of multiple actors.

Thus, now is the time for stakeholders to act. Businesses, policymakers, and the global development community should leverage their areas of expertise and collaborate—both to help expand Internet access and to deepen engagement online. The potential for impact is vast, but without action, women and girls risk dropping even further behind in a world more globalized and savvy about technology by the day.

The following recommendations outline a path forward for stakeholders, suggesting (1) general areas of focus and (2) specific interventions that leverage the strengths of specific stakeholders.

⁷⁴ 23% of non-users answered "I don't need to access the Internet" and 25% answered "I'm not interested in it." Respondents could select multiple options.

⁷⁵ 23% of non-users answered "I'm not familiar or comfortable with the technology"

⁷⁶ 8% of non-users answered "I don't think it is appropriate for me to use the Internet" and 6% selected "My family/friends would disapprove". Respondents could select multiple options.

Recommendations

The following recommendations aim at shifting the Internet ecosystem in developing countries. Although directed at specific stakeholders, these recommendations require

or would be greatly enhanced by collaboration between different groups of stakeholders. Without collaboration, policies and initiatives often falter for lack of funding or enforcement.

Recommendations supporting **individual** factors to enable Internet access for women and girls

Category	Recommendation	Industry	Development community	Policy-makers
Awareness	Develop and share content relevant to women, such as health information and e-government services, as well as “safe” online communities that encourage expression while addressing pornography and other appropriateness concerns	X	X	X
	Expand options for free content access to generate interest and lower the initial hurdle for non-users, for example by making content available without data charges through mobile Internet, while recognizing that such content is not a substitute for unrestricted access on fully functional platforms	X		
Ability	Ensure that existing Internet access initiatives give women and girls a seat at the table, and that they incorporate the full package of needs: hardware, software, connectivity, training, and ongoing support/ maintenance	X	X	X
	Integrate digital and information literacy into existing programs targeting women and girls	X	X	X
Environment	Address the gender inequality underlying many barriers to Internet access; for example, by investing in girls’ education or women’s access to finance	X	X	X
	Invest in bringing technology and long-term training to the hardest to reach populations, such as low-income and rural women		X	X
	Support piloting of programs to address women-specific needs, such as for “safe” access points like women-only Internet cafes, and government measures to increase online safety		X	X

Recommendations supporting **ecosystem** factors to enable Internet access for women and girls

Category	Recommendation	Industry	Development community	Policy makers
Network infrastructure	Develop comprehensive national plans for increasing broadband penetration that address gender-specific barriers to access			X
Products and players	Expand access to affordable platforms through innovative low-cost designs, such as through technology designed specifically for education	X		
Policies	Address market constraints that impact the affordability of Internet platforms, such as ensuring healthy competition, while also supporting women directly through programs such as targeted subsidies			X
	Make topic experts available to bring gender awareness to telecommunications policies, and technical awareness to gender policies. For example, universal access programs should be designed to address the types of gender-specific barriers identified by this study	X	X	X
	Bring women to the table as leaders and decision makers throughout the ecosystem to serve as role models, and to advocate for inclusion of gender-specific considerations in policies, products and services	X	X	X
Gender-responsive outreach, advocacy and capacity building	Collect and openly share gender-disaggregated access and usage data	X	X	X
	Invest in local women ICT leaders to serve as role models, trainers, content creators, and supporters for women and girls in their communities		X	X
	Support the establishment and growth of Internet advocacy organizations that prioritize gender-focused initiatives. Examples are WOUNET (the Women of Uganda network) at the country level, ArabDev at the regional level, and APC (the Association for Progressive Communication) at the global level		X	
	Establish public-private partnerships to continue studying the gender perspective, expand awareness of the Internet's benefits, and develop actionable recommendations	X		X

Initial specific interventions

The following five interventions target **barriers** to women's access and engagement online: awareness, ability, and environment. Many of them target multiple barriers. Some are based on actual interventions to promote and develop women's Internet use. They are described further below, and should be considered a starter list to inspire further discussion and action by readers of this report.

Other major barriers to women's and girls' Internet access are already being partly addressed by market forces. Interventions

could support acceleration of those forces and a more even distribution of their benefits. Examples include:

- Expanding the mobile Internet infrastructure and accelerating the slow pace of broadband rollout.
- Continued reduction in the price of basic Internet platforms, especially feature phones and some tablet models
- Introducing more powerful and flexible platforms that lay the groundwork for convergence between computers and mobile phones—as well as for deeper Internet engagement online

Push and pull: driving women online

A variety of 'push' and 'pull' drivers encourage women and girls to access the Internet. Women and girls are "pushed" onto the Internet when, for example, their schools or workplaces require or encourage Internet use. Other drivers that push women online are when the Internet provides the only, or better, access to a service, such as railway bookings in India.

Thirty-four percent of women and girls in our survey used the Internet at work and 20 percent at school. Access through work or school mitigates certain barriers, including lack of awareness and Internet skills. It also ensures women have access to relevant content. Many women first exposed to the Internet at work or school will in the long-term upgrade to personal access at home.

Pull drivers include the lure of status and attractive content. Social networking platforms are pull drivers, especially for women and girls, who spend significantly more time social networking than men. Peer influence plays an important role: seeing friends or family spend time on social networks can incite women to participate. Once pulled online by popular sites such as Facebook or Orkut, women gain awareness of other online content.

The model of Facebook and other social networking platforms has users generate content. User-generated content obviates a signal problem faced by women in developing countries: the lack of relevant content in local languages.

"For women, the basic problems are the problems that are much larger than technology. They are the gender equality, the patriarchy, the violence against women who dare to use the technologies because men are suspicious. The forces that keep women and girls from going to school. These forces keep them from using the technology—even if it is in the house."

Nancy Hafkin, PhD

Senior Associate

Women in Global Science and Technology
(WISAT)

1) Convene a coalition to advocate for women and girls online

Main actors: Internet advocacy organizations, industry, development community

Target population: All women and girls, particularly those not yet online

Women and girls across countries, income levels, and ages have cited awareness as a key reason they do not use the Internet—or if they are already online, a reason they do not use it more. The challenge is not in explaining what the Internet is, but rather, why it is beneficial and relevant to women and girls across vastly different social environments. A global marketing campaign, led by a coalition of partners representing the different faces of the Internet landscape, could help to change that. Components of the campaign could include a signature day, week, or month dedicated to getting women online. Marketing activities could be paired with efforts to offer women digital and information literacy training to further address ability-related barriers. Celebrations, workshops, training materials, and a local ‘face’ of the campaign could be adapted to specific countries or regions. The coalition could bring together a diverse group of organizations whose work already touches on the Internet gender gap but does not address it directly.

Example: *Girls in ICT portal*—A partnership between the International Telecommunications Union and WITNET Global Network Women in ICT that supports marketing, global events such as Girls in ICT Day, research, and other resources to advocate for increasing the number of women in ICT-related careers.

2) Build on existing partnerships with mobile operators to make more relevant content available free on mobile phones

Main actors: Mobile operators, private and social-sector content providers

Target population: Women with Internet-enabled mobile phones

The spread of Internet-enabled mobile phones is impressive, but many people in developing countries with Internet capabilities on their phone do not take the first step of turning them on. Providing popular content that can be accessed in a local language, without cost, on mobile phones would create an easier path to bridging the awareness gap for women. Facebook Zero already provides free mobile-phone content in some developing country markets, while in 2012, Wikipedia Zero began providing mobile users in some developing countries free access to its online encyclopedia. Expanded, relevant content—for instance, women’s health information—would encourage more women to enable and use the Internet on their mobile phones, and would encourage others to deepen their Internet use. Such initiatives could operate in parallel with the existing Wikipedia Zero agreement with multiple mobile phone operators, or by funneling additional information targeted to women and girls through Wikipedia itself.

Example: *Wikipedia Zero*—An initiative driven by Wikipedia in which it partners with phone carriers in the developing world to allow for free access to the universe of Wikipedia content from any phone, regardless of whether they pay for an Internet data plan.

3) Incentivize entrepreneurs to create new local and relevant content targeted to women

Actors: Local entrepreneurs, media companies, technology investors

Target population: Women who don’t use the Internet or who use it for limited purposes

Women in developing countries often face a scarcity of local content tailored to women’s interests and concerns, which is one reason they gravitate to social networking sites (which are by definition, full of local, relevant content). This networking is a critical mechanism for content generation and sharing, generating vast benefits for women in all spheres of their lives and there is room to further expand the breadth of information and online engagement opportunities available for women to increase impact. Investors such as media companies could fund startup websites that provide relevant, local-language news and information for women and girls. Companies could be identified and vetted through startup competitions. Two such competitions geared toward entrepreneurs in the Middle East and North Africa are the MIT Arab Business Plan Competition and Google’s Ebd2, both of which supported the Egyptian site SuperMama referenced earlier in this report.

Examples: In addition to SuperMama, examples include *Alfarabi*, a social medical network where users can share medical experiences and see recommendations, and *Amnee*, a mobile and web safety application.

4) Identify women ICT leaders to serve as advocates for the benefits of Internet access

Main actors: Donors, industry, development community, local community leaders

Target population: Low-income urban and rural women

Women without exposure to the Internet at school, their workplaces, or through peer social groups often have little chance to learn about it. Even more, without leaders or role models to demonstrate the benefits of Internet use and provide training, it can be difficult to overcome initial hurdles to use. But in many communities, women have already taken on an ICT leadership role, whether as teachers, journalists on technology issues, or employees in a related NGO. Identifying these women, providing them further leadership training, and working with them to develop a pipeline for new ICT leaders would serve several purposes. Women would have a role model – someone local and familiar who could speak to and demonstrate the benefits of Internet access first hand. Longer term, these ICT leaders could promote access equality by offering training and addressing other access barriers.

Examples: *Digital Democracy*—An organization that targets community groups and organizations, in many cases women's groups, to help develop their skills in digital literacy, digital organizing and digital citizenship so they can lead and empower their communities through technology. Also the *Intel® Learn Program*, which provides technology education to youth, and which a recent ICRW study found increased digital literacy and empowerment for girls who could then become role models in their schools and communities.⁷⁷

5) Consistently track how women and girls access and use the Internet

Main actors: Policymakers and government officials, development stakeholders, industry

Target population: Women and girls in developing countries

There is a dearth of comprehensive, primary and secondary research on how women and girls use the Internet in developing countries. Stakeholders are just beginning to understand patterns of women's Internet usage, and these patterns are shifting constantly. Stakeholders should fund research to obtain data on usage patterns, the needs of rural women, and correlations with Internet-derived benefits such as education and income-generation. Google and InterMedia have funded several such efforts, but much more is needed. Rather than establish something new, one option would be to leverage the existing gender working group within the Partnership on Measuring ICT for Development to further collection, analysis, and dissemination of gender-disaggregated ICT indicators globally.

Additional example: *Think Insights*—An initiative funded by Google to commission the gathering of gender-disaggregated Internet user data and patterns in regions of the world where such data is lacking, and to make it available to the public.

⁷⁷K. Gill, A. Glinski, G. Gaynair, "The Intel® Learn Program Through a Gender Lens," The International Center for Research on Women, 2012.

Looking ahead: a call to action

Rapid technological change and increasing urbanization have put the Internet in the hands of more people than ever before, and in the coming years, these forces will continue to reduce the barriers women and girls face to Internet access. Broadband and 3G access in urban areas will continue to increase. More women will be pulled online by their interests, social networks, and improved accessibility. As hardware types converge—laptops taking on aspects of tablets, for instance, and phones taking on more Internet functionality, all at lower cost—more women and girls will see a path to Internet access open up.

Clearly, these forces will not go far enough on their own. Without long-term, dedicated interventions, rural women will potentially fall farther behind, as will women and girls at the base of the pyramid. More affordable hardware and broader penetration will not, by themselves, help women gain awareness of the Internet's benefits (and use it to harness those benefits), improve their technological skills, or reduce the effects of restrictive gender norms. Without help reducing these barriers to access, women and girls risk getting left out of a world that is increasingly connected.

With rapid structural change afoot, there has never been a better time to help women and girls realize the transformative potential of the Internet. All stakeholders should act together, beginning now, to help double the number of women online within the next three years. Doing so will give an additional 600 million women and girls the tools to imagine and enact better lives, not only for themselves, but for their families, communities, nations, and the world.



Annex

Methodology

Overview

Findings in this report are derived from data collected through primary and secondary research, including third-party databases, extensive interviews, and more than 2,200 surveys of Internet users and non-users (1,800 face-to-face; 400 online) across four countries (Egypt, India, Mexico, and Uganda). Analysis techniques included: a) synthesizing survey findings to identify insights into women's Internet usage patterns, preferences, and barriers; b) aggregating publicly available data on Internet access and use across demographic segments; c) interviewing experts to validate data findings, identify relevant case studies, and discuss potentially impactful interventions; and d) developing a model to size the Internet gender gap across 144 developing countries, and to estimate the value of the market opportunity and impact to GDP. This study focuses exclusively on low- and middle-income countries as defined by the World Bank.

Expert Interviews

Approximately 40 interviews were conducted with leaders of non-profit organizations in our focus countries, gender experts, IT industry experts, Internet usage data collectors, journalists, female online activists, and academics. Through these interviews our team gathered critical data, anecdotes, and insights into increasing women's Internet access; the barriers women face in accessing the Internet; the efforts to shrink the gender Internet access gap across the world; and the impact of Internet in the lives of women. The expert interviews also served to validate the models underlying our analysis.

Surveys in Four Focus Countries

More than 2,200 women, both Internet users and non-users, were surveyed across a selection of four low- and middle-income focus countries: Egypt, India, Mexico, and Uganda. These countries were selected in an effort to reflect the variation in preferences, usage, and barriers experienced by women across

different regions and cultures, but no four countries could be wholly representative of the global landscape. To reflect the demographic profile of each country, survey data were weighted based on age and region, according to the latest census data, so that total scores were not biased towards certain regions or age groups. The survey sample included women of different ages, income levels, and geographic locations within urban and peri-urban areas. The questionnaire included questions on women's Internet usage patterns, preferences, location of usage, usage platforms, perceptions of the Internet, and barriers to Internet access.

Market Sizing

Several market-sizing models were developed to calculate: a) the size of the existing Internet access gender gap in developing countries; b) the projected number of women online in three years; c) the GDP growth that would occur if the Internet gender gap were closed; d) the GDP growth that would occur if 600 million additional women were online in three years; and e) the current value of the market opportunity of closing the gender gap and/or reaching 1.2 billion women online in three years. The sizing models were anchored in country-level data from third-party databases and research studies. In particular, they models used more than 30 data points of gender-disaggregated Internet user data across low income, lower-middle income, and upper-middle income countries from the ITU database, as well as gender-disaggregated Facebook user data for more than 130 countries from AllFacebookStats.com. With these data points, a logarithmic regression analysis was conducted between the ratio of women-to-men Internet users and the ratio of women-to-men Facebook users to identify an appropriate correlation formula to apply to the low income, lower-middle income and upper-middle income countries for which gender-disaggregated Internet user data was not available. Crosschecks between model calculations and existing data points were used for quality-control purposes, and the results informed minor adjustments to account for

regional variances. The final gender gap between male and female users in low income, lower-middle income and upper-middle income countries was calculated to be approximately 200 million.

Opportunity sizing

To determine an appropriate goal for the number of women that could be connected to the Internet over the next three years, our model first relied on a) the three-year historical CAGR (cumulative annual growth rate, between 2008-2011) for Internet penetration rates in developing countries; and b) the four-year historical CAGR (between 2007-2011) for population growth in developing countries. Carrying these assumptions forward, we estimate an additional 450 million women will gain access to the Internet over the next three years if the Internet adoption rate does not slow. An additional 150 million users would gain access if action from stakeholders resulted in a 40 percent reduction in the size of the gender gap.

GDP Growth

To calculate the economic impact of increasing the number of Internet users worldwide, we relied on a formula created by the World Bank and further described in the report *Information and Communications for Development 2009: Extending Reach and Increasing Impact*.¹ The World Bank team relied on data from the ITU and World Bank in their econometrics analysis, which covered approximately 120 countries. It used the average growth rate of per-capita GDP between 1980 to 2006 as the dependent variable and regressed onto four variable indicators. In addition, their analysis divided the sample into developed and developing economies; the latter included low and middle-income economies, per World Bank definitions). A more extensive explanation of their methodology is available in the report directly. For our analysis, a range was applied to the resulting GDP value to account for one significant difference between the formula and our calculations: the World Bank formula applied to ICT usage by both women and men, while we were suggesting adding only women and girls as Internet users.

Market Opportunity

We calculated the market opportunity by assessing the value of likely purchases of two categories: Internet platforms and network plans. For the platforms, we first accounted for significant sharing of Internet access points in developing countries through, for example, Internet cafes or shared computers in a household. We did not assume that every new user will own her own device, whether computer or mobile phone. To estimate the number of new devices and network plans associated with our projected number of new users, we applied the current ratio of Internet subscribers to the number of Internet users in developing countries, and extrapolated from historical trends. To remain conservative and to account for the likelihood of continued price declines, in all cases we chose the lowest-cost devices and service plans for our model. These low-cost price points were determined through interviews with in-country IT experts and a desk review of relevant literature and online shopping portals across our four focus countries. These findings were extrapolated to the remaining countries through averages of the lowest-cost devices across our four focus countries due to a relatively small range of variability. The market-opportunity analysis is based on assumptions about new Internet users; though increasing usage for women who are already online could yield market benefits through, for example, increased data purchases, there is not sufficiently detailed data available to provide an accurate estimate of this added market opportunity.

¹ Chapter 3: Economic Impacts of Broadband, pages 36-50. The full report is available here: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATION/ANDTECHNOLOGIES/EXTIC4D/0,,contentMDK:22229759~menuPK:5870649~pagePK:64168445~piPK:64168309~theSitePK:5870636,00.html>



SNAPSHOT	
Population	84M
2011 GNI Per Capita	USD 6,160
Internet penetration	35.6%
Woman's Internet penetration	32.2%
Men's Internet penetration	39.0%
Internet gender gap (weighted)	17.5%

Country Profile

Egypt's Internet penetration is the second highest across our four focus countries (35.6 percent) and Egypt has the second smallest weighted percentage gender gap, approximately 18 percent. In addition, it is the second wealthiest of our focus countries, with a 2011 GNI (PPP) per capita of USD 6,160.² This ranks Egypt 88th out of 214 countries according to the World Bank, significantly below the Middle East and North Africa regional average of USD8,026.³ The per capita GNI equates to income of USD 16.88 per day. The majority of Egypt's population lives in rural areas (57 percent).⁴ Seventy-two percent of Egypt's population aged 10 and above can read and write (64 percent for women; 80 percent for men).⁵ The ratio of girls to boys in primary and secondary education is 95.9 percent, slightly higher than the Middle East and North Africa average of 92.6 percent.⁶

Although the majority of the Egyptian population lives in rural areas, the share of the population that is urban is much greater than in other focus countries (43 percent, compared to 31 percent in India and 16 percent in Uganda). A greater urban population typically indicates higher Internet penetration, relative to other developing countries, since Internet use faces additional barriers in rural areas where electricity, network infrastructure, and availability of public access points all serve to hinder access. This is true for Egypt as well, but differences in access to education and particularly literacy between women and men influence the size of the Internet gender gap in Egypt. Patterns of Internet use in Egypt were also influenced by the revolution over late 2010 and early 2011, as our survey found.

Perhaps because of recent political events, female users surveyed in Egypt were the most likely to have been online for less than a year (26 percent), and more than twice as likely than any other focus country to believe the word "liberating" describes the Internet very well (78 percent). Among non-users, the top barrier cited by Egyptian women was a lack of interest in the Internet (41 percent), followed by a feeling they did not need the Internet (23 percent) and the absence of someone to show them how to use it (20 percent). Egyptian non-users were six times more likely to believe it was not appropriate for them to be on the Internet than women in Uganda (12 percent, compared to 2 percent), and Egyptians were the most likely to believe their friends and/or family would disapprove of them using the Internet (10 percent).⁷

² World Bank data

³ World Bank data

⁴ World Bank data

⁵ CIA World Factbook

⁶ World Bank data

⁷ Globescan surveys in Uganda, Egypt, India and Mexico, August-September 2012



Country Profile

India has the second lowest income of our focus countries, with a 2011 GNI (PPP) per capita of USD 3,620.⁸ This ranks India 112th out of 214 countries in GNI according to the World Bank, and slightly above the South Asia regional average of \$3,320.⁹ The income level equates to USD 9.92 per day. More than two-thirds of India's population lives in rural areas (69 percent).¹⁰ Sixty-one percent of Indians aged 15 and above can read and write (48 percent for women; 73 percent for men).¹¹ The ratio of girls to boys in primary and secondary education is 94.9 percent, which is in line with the South Asia regional average of 95.0 percent.¹²

Although nearly 70 percent of the Indian population lives in rural areas, Internet penetration is so low in rural areas that a majority of Internet users across India are urban dwellers. According to Internet in Rural India, a report published in June 2012 by IMRB International, 31 million rural inhabitants could be defined as active monthly Internet users. This represents less than 4 percent of the Indian rural population. However, the report also projected that rural active monthly Internet users in India will grow to 38 million by December 2012. The projection would indicate average annual growth of 78 percent for rural Internet users in the two years since December 2010.¹³

India has the lowest Internet penetration for women across our focus countries, with only 8.4 percent of the female population online. This represents a weighted gender gap of more than 27 percent, meaning a woman in India is 27 percent less likely to have internet access than a man. In our survey, Indian female Internet users were the most likely to perceive the Internet as “essential” to their daily lives (43 percent). In addition, they were the most likely to have used the Internet to search for and apply for a job (59 percent). Among non-users, Indian women were by far the most likely to state discomfort with or unfamiliarity with the technology as a barrier to them accessing the Internet (38 percent). In addition, Indian non-users were almost twice as likely as women from the other focus countries to state they do not need access to the Internet (40 percent). Non-users among Indian women were also tied with those from Egypt to be the most likely to believe their partner or family would be “very opposed” to the idea of them using the Internet (10 percent).¹⁴

SNAPSHOT	
Population	1.24 billion
2011 GNI per capita	USD 3,620
Internet penetration	10.1%
Woman's Internet penetration	8.4%
Men's Internet penetration	11.6%
Internet gender gap (weighted)	27.4%

⁸ World Bank data

⁹ World Bank data

¹⁰ World Bank data

¹¹ CIA World Factbook

¹² World Bank data

¹³ IMRB International

¹⁴ Globescan surveys in Uganda, Egypt, India and Mexico, August-September 2012



Country Profile

Mexico has the highest income level of the four focus countries, with a 2011 GNI (PPP) per capita of USD 15,060.¹⁵ This ranks Mexico 48th out of 214 countries according to the World Bank, and significantly above the Latin America and Caribbean regional average of USD 11,587,¹⁶ equating to income of USD 41.26 per day. Almost four-fifths of Mexico's population, 78 percent, lives in urban areas.¹⁷ Eighty-six percent of Mexicans aged 15 and above can read and write (85 percent for women; 87 percent for men).¹⁸ The ratio of girls to boys in primary and secondary education is 102.4 percent, which is slightly above the Latin America and Caribbean regional average of 101.8 percent,¹⁹ and unique among our focus countries in demonstrating a reverse gender gap for education.

Mexico has the highest Internet penetration of women across our focus countries at 34.2 percent, and the smallest weighted percentage gender gap, approximately 10 percent. Although Mexico's weighted percentage gender gap is smaller than any other focus country we surveyed, it is slightly above the regional average of 9.8 percent for Latin America and the Caribbean. Overall, the Latin America region stood out for its low Internet gender gap, which is less than half the average of any other region our study covered. For a full comparison between regions, see the section entitled *Sizing the Opportunity*.

Female Internet users surveyed in Mexico were the most likely to have used the Internet for more than 5 years (37 percent). They were also the most likely to use any Internet platform daily (laptop, desktop, tablet or mobile phone). In addition, Mexican female users were the most likely to report having earned additional income through Internet usage (38 percent). Among non-users, the top barrier cited by Mexican women was a lack of access to a computer or mobile phone with Internet (24 percent). The next three largest barriers cited by Mexican women non-users were: I don't need access (17 percent), I'm not familiar or comfortable with the technology (16 percent), and there is no one to show me how to use it (14 percent). Not surprisingly, in a country where literacy and education rates are very similar between women and men, when non-users were asked why they do not access the Internet more often, less than 1 percent of non-users responded that it was because their family and/or friends would disapprove. By comparison, 10 percent of Egyptians non-users so responded.²⁰

SNAPSHOT	
Population	115M
2011 GNI per capita	USD 15,060
Internet penetration	36.2%
Woman's Internet penetration	34.2%
Men's Internet penetration	38.1%
Internet gender gap (weighted)	10.2%

¹⁵ World Bank data

¹⁶ World Bank data

¹⁷ World Bank data

¹⁸ CIA World Factbook

¹⁹ World Bank data

²⁰ Globescan surveys in Uganda, Egypt, India and Mexico, August-September 2012



Country Profile

Uganda has the lowest income among our focus countries, with a 2011 GNI (PPP) per capita of USD 1,320.²¹ This ranks Uganda 142nd out of 214 countries according to the World Bank, and significantly below the sub-Saharan Africa regional average of USD 2,233,²² with the per capita GNI equating to income of USD 3.62 per day. The vast majority of Uganda's population lives in rural areas (84 percent).²³ Sixty-seven percent of Ugandans aged 15 and above can read and write (58 percent for women; 77 percent for men).²⁴ (The ratio of girls to boys in primary and secondary education is 98.5 percent, which is significantly above the sub-Saharan Africa regional average of 89.9 percent).²⁵

Uganda has one of the lowest Internet penetration rates of women across our focus countries, at 9.1 percent, and the largest weighted percentage gender gap, more than 45 percent. Uganda's weighted percentage gender gap is larger even than the regional average of 43 percent for sub-Saharan Africa, which is itself the largest gender gap across regions.

Female Internet users in Uganda were the most likely across our focus countries to use the Internet to email friends and family (97 percent), and also the most likely to access Facebook and other social networks (90 percent). In addition, Ugandan women were three times more likely than women from any other surveyed country to report the location at which they most often access the Internet for personal use as an Internet café (27 percent). Ugandan female Internet users were the most likely of those surveyed to believe the word "expensive" describes the Internet very well (35 percent). This may be partly explained by the fact that 64 percent of Ugandan women in our survey pay for their own Internet use, a level almost twice as high as women users in the other focus countries. Among non-users, the top barrier cited by Ugandan women was lack of easy access to a computer or mobile phone with Internet (33 percent) and was followed by a lack of familiarity or comfort with the technology (22 percent).²⁶

SNAPSHOT	
Population	35M
2011 GNI per capita	USD 1,320
Internet penetration	13.0%
Woman's Internet penetration	9.1%
Men's Internet penetration	16.9%
Internet gender gap (weighted)	46.2%

²¹ World Bank data

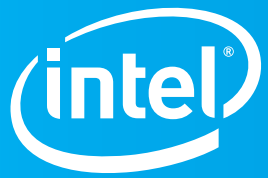
²² World Bank data

²³ World Bank data

²⁴ CIA World Factbook

²⁵ World Bank data

²⁶ Globescan surveys in Uganda, Egypt, India and Mexico, August-September 2012



Copyright © 2012 Intel Corporation. All rights reserved. Intel, and the Intel logo, are trademarks of Intel Corporation in the U.S. and other countries.

*Other names and brands may be claimed as the property of others.