Global Report – October 2015

Women's Rights Online

Translating Access into Empowerment

WORLD WIDE WEB FOUNDATION

with support from:
Swedish International Development Cooperation Agency (Sida)

SWEDEN

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1. EXECUTIVE SUMMARY — 3

Key recommendations — 6

2. INTRODUCTION: TECHNOLOGY, GENDER AND EMPOWERMENT — 8

3. THE GENDER GAP IN INTERNET ACCESS AND USE — 12

3.1. Who is online? — 12

3.2. What determines who is online? — 14

Education is the key — 14

Age — 15

Income — 16

Civic engagement and political participation — 18

3.3. What barriers do women perceive? — 18

Know-How — 18

Cost — 20

Time — 20

Relevance — 20

Infrastructure — 21

Access to Internet-enabled devices — 21

Other factors — 22

4. THE GENDER GAP IN DIGITAL EMPOWERMENT — 24

4.1. Social capital — 24

4.2. Access to Information to Claim and Demand Rights — 28

4.3. Civic Engagement and Political Voice — 31

4.4. Economic Opportunity — 36

5. CONSTRAINTS — 38

5.1. Online Harassment — 38

5.2. Patriarchal attitudes to the Internet — 40

5.3. Offline marginalisation — 41

6. CONCLUSION AND RECOMMENDATIONS: CLOSING THE GENDER GAP IN ICT POLICY — 42

Recommendations — 43

ANNEX / LIST OF TABLES AND GRAPHS / REFERENCES

1

EXECUTIVE SUMMARY

The newly adopted UN Sustainable Development Goals include an important pledge to harness information and communications technologies (ICTs) to advance women's empowerment, as well as a commitment to connect everyone in Least Developed Countries to the Internet by 2020. However, until now, estimates of the "digital divide" between women and men in use of the Internet and other ICTs have been sketchy.

This report explores the real extent of that divide in nine cities across nine developing countries, in order to gain a better understanding of the empowering potential of ICTs as a weapon against poverty and gender inequality, and the barriers that must be overcome to unlock it. Research was designed and carried out in close collaboration with leading national civil society organisations in the countries we studied.

The stereotype of poor people in the developing world uniformly "left behind" in the darkness of a life without Internet connectivity is as misleading as its opposite: the cliche in which almost everyone in Nairobi or Jakarta now wields a mobile phone that gushes forth market price data, health information and opportunities for civic engagement.

Instead, our research reveals a picture of extreme inequalities in digital empowerment – which seem to parallel wider societal disparities in information-seeking, voice and civic engagement. For example, Internet use among young, well-educated men and students in poor communities of the developing world rivals that of Americans, while Internet use among older, uneducated women is practically non-existent.

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Inequalities in access

Women are about 50% less likely to be connected than men in the same age group with similar levels of education and household income.

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Women are almost as likely as men to own a mobile phone of their own, but they are a third less likely than men of similar age, education level and economic status to use their phones to access the Internet.

The **most important socio-economic drivers of the gender gap in ICT access are education and age**. Controlling for income, women who have some secondary education or have completed secondary school are **six times** more likely to be online than women with primary school or less.

Cities with the highest gender gaps in education level such as Nairobi (Kenya), Kampala (Uganda), Maputo (Mozambique), and Jakarta (Indonesia) were also the ones where the highest gender gaps in Internet access were reported.

Conversely, **in the cities where women's educational attainment outstrips the men in our sample (New Delhi and Manila), the gender gap in Internet access has closed.**

Unconnected women cited lack of know-how and high costs as the major reasons that they are not using the Internet. In the countries in our study, a monthly prepaid data allocation of one GB (enough for just 13 minutes of Web use a day, excluding video) costs, on average, about 10% of average per capita income. That's 10 times more than what the same data costs the average OECD citizen, relative to income, and is double what people in developing countries spend on healthcare. In the countries with the highest Internet costs as a proportion of average income, our study found the lowest numbers of women online and the largest gender gaps in Internet use.

Inequalities in use

How people use the Internet, once they are connected, is also strongly influenced by offline inequalities. Most of the urban poor respondents in our study face comprehensive marginalisation in civic and economic life. Only a small minority proactively seek out information from any source on topics key to achieving their rights, and an even smaller percentage participate in political debate or community affairs. Most are in insecure, informal work or don't have any reliable income of their own. Being female deepens exclusion on every single one of these counts.

A few of these poor urban dwellers are starting to use the Internet to change their situation – to gain a voice, seek information, enhance their livelihoods, or expand their networks beyond existing social boundaries. Not only is this group small, it is also disproportionately male.

Women are half as likely as men to speak out online, and a third less likely to use the Internet to look for work (controlling for age and education).

The most important socio-economic drivers of the gender gap in ICT access are education and age.

However, there is potential for digital empowerment to spread much more widely and equitably:

- A high proportion of women and men surveyed recognise and value the Internet as a space for commenting on important issues, and say that the Internet has made it safer for women to express their views – even though they may not yet be using it for this purpose themselves.
- Large majorities of urban poor Internet users do already exploit digital platforms as a vehicle for reinforcing the social ties on which their survival often depends, suggesting that the Internet's power to enhance social capital could be an effective route to digital empowerment.
- Education is a major enabler of digital empowerment among women, suggesting opportunities for greater investment in girls' education to work hand-in-hand with targeted ICT skills programmes in schools.
- Gender gaps in how men and women use the Internet are significant – but not as large as gender disparities in access to the Internet. In other words, once women do manage to get online, the gap narrows between female and male users in terms of digital empowerment. The policy challenge is to grow the minority of women using the Internet and expand their voice and choices into a majority – both through expanding women's access and in tackling barriers to women's empowerment.

Notably, women who are active in "offline" political and civic life are not only more likely to be connected in the first place, but are also three times more likely (controlling for education level, age and income) to use the Internet to express opinions on important or controversial issues than other women. We need to better understand this synergy between offline and online agency in order to learn how gender norms that silence women in both realms can be overcome.

Patriarchy online

Around three in 10 men agreed with sentiments that the Internet should be a male-controlled domain, but only two in 10 women agreed. Only a tiny fraction of women said they do not use the Internet because it is "not appropriate" for them or that they are not permitted to do so. Such attitudes were much more prevalent in some cities than others, however. For example, in New Delhi and Manila nearly two-thirds of men agreed

Around three in 10 men agreed with sentiments that the Internet should be a male-controlled domain.

with the statement that women should not be allowed to use the Internet in public places, and over half agreed that men have the responsibility to restrict what women look at online. Yet, these were the two cities with the highest levels of Internet use among women, suggesting that patriarchal beliefs don't necessarily stop women getting online. However, further research is needed to explore the extent to which they contribute to self-censorship in how, where and when women use the Internet.

Summary of key recommendations

We will not achieve the SDGs on universal Internet access and empowerment of women through ICTs unless technology policy is specifically designed to tackle and overcome the steep inequalities of gender, education and income outlined in this study.

Full details of each recommendation can be found at the end of the report, but the fundamentals include:

1. **Establish time-bound targets for equity in Internet access, use and skills, by gender and income level**. Our 2014 Web Index shows that many national ICT strategies or broadband plans include, at most, a rhetorical commitment to gender equity. A few have a patchwork of interesting but small-scale programmes and initiatives, but overarching targets linked to budget allocations are needed to ensure coherence, coordination and scale.

2. **Teach digital skills from primary school onwards**. Our findings point strongly to the overwhelming difference that education makes to women's use of technology, even when controlling for other factors such as income and age. By making sure that primary and secondary school curricula include ICT literacy basics, we can take advantage of near-100% primary enrolment rates to open up digital opportunities for everyone.

3. **Smash the affordability barrier**. Making broadband cheaper is not only the best way to get more people connected, but also a prerequisite to enable them to go online and explore longer and more often, so they can fully unlock digital opportunities. For example, women who are able to go online daily are nearly three times more likely than infrequent users to report that the Internet has helped them to increase their income.

4. **Practice woman-centred design**. The impact of online services could be dramatically increased by defining the end user as a woman and not just a generic "consumer". Experience shows that when women are not consulted, products and services are often destined to fail. When government agencies and donors invest in such services, the number one target for success should be uptake by low-income women.

5 **Make women's civic and political engagement an explicit goal**. The small minority of poor women who are already active in community or political life are not only much more likely to be online, but also far more likely to use technology in transformative ways. Policymakers should work with women's groups to find ways that technology can help women to enhance their offline participation, voice and power.

6 **Combat harassment of women online**. In 74% of countries included in the Web Index, law enforcement agencies and the courts are failing to take appropriate actions in situations where ICTs are used to commit acts of gender-based violence. Governments must take steps to enact adequate legislative measure to protect women and girls, and educate law enforcement, lawyers and judges on how to deal with ICT-mediated violence against women.

7 **It's not (just) the technology, stupid**. Neither communications ministries, which typically have lead responsibility for national ICT strategies, nor gender ministries, where these exist, can achieve the SDGs on Internet access and women's digital empowerment on their own. Additionally, our findings underline the lesson that empowering women does not happen in separate boxes labelled "offline" and "online", but requires progress across several fronts at once. Government agencies, civil society groups and private sector stakeholders will need to work together in all sectors to ensure that ICT initiatives are systematically integrated with wider efforts to expand women's choices and capabilities in the labour market, in the home, at school and in public life. Training policymakers across different sectors (such as health, education, small business, agriculture) to understand and harness the potential of ICTs to tackle poverty and gender inequality may be a good starting point.

2

INTRODUCTION: TECHNOLOGY, GENDER AND EMPOWERMENT

More and more women across the developing world are gaining access to the Internet and mobile phones, and there are high hopes that this could accelerate progress against gender inequality – progress that has otherwise been frustratingly slow. The newly adopted UN Sustainable Development Goals (SDGs) include an important pledge to harness information and communications technologies (ICTs) to advance women's empowerment, as well as a commitment to connect everyone in Least Developed Countries (LDCs) to the Internet by 2020.

A better evidence base for understanding how gender and poverty affect ICT use is badly needed to guide efforts to achieve the SDG targets. As a UN expert task force on measuring ICT recently concluded, "*when ICT data excludes data on women specifically, women become ignored in data and in policy*" (ITU 2014). While there is evidence that men are benefitting more than women from the digital revolution, the data is patchy. So, using household surveys and focus group discussions, we set out to dig deeper into the "digital divide", exploring the extent to which poor city-dwellers in 10 developing countries are leveraging digital opportunities, and the relative importance of gender, age, income and education in determining how people exploit ICTs.

> *"When ICT data excludes data on women specifically, women become ignored in data and in policy."*
>
> UN ICT expert task force

This global synthesis report covers nine of the 10 study countries (survey data from the 10th, Egypt, was received too late for inclusion). As Table 1 shows, all of these countries have high levels of gender discrimination, mainly ranking in the bottom third of countries included in UNDP's Gender Inequality Index.

We conducted our research in a range of slum areas and informal settlements in Nairobi, Kampala, Lagos, Yaounde, Maputo, Cairo[1], Bogota, New Delhi, Jakarta and Manila.[2]

We chose urban areas for our research for two reasons. First, high population densities in urban areas made it feasible to carry out

1 *Due to bureaucratic challenges that led to delays in survey implementation, data from our research in Cairo, Egypt was not available in time for inclusion in the global report. Please refer to the Egypt country report written by Tadwein Gender Research Centre for data and analysis.*

2 *Including capital cities or the main economic hub of each country.*

door-to-door interviews, rather than telephone or SMS surveys, leading to more reliable and representative data. Second, because women's choices and experiences around connectivity were a key research focus, we needed to select areas where the basic infrastructure (such as 3G signal coverage and public Internet access points) is available to allow people to connect. This excludes much of the countryside in many developing countries. However, we acknowledge the critical importance of carrying out similar research in rural areas in future.

Although incomes may be higher on average in cities than in rural areas, the poor urban dwellers we surveyed face extreme vulnerability and marginalisation in many dimensions of their lives. Many of them live in settlements that are illegal or afford no tenure security. This not only puts them at constant risk of eviction by developers or local authorities, but also, in some cases, makes them dependent on local "slumlords", who can extract extortionate sums for protection. Most slum neighbourhoods lack basic necessities like running water, sewage, electricity, and garbage removal. Many of the respondents in our New Delhi sample, for example, live in tent-like shelters (jhuggis) on the roadside; in Manila many people live under bridges, along train lines or on riverbanks. The areas where the poor can afford to live are also often subject to toxic pollution and natural disasters. For example, many of the communities we surveyed in Kampala, Manila and North Jakarta are on the frontline of climate-related flooding, while informal settlements in Bogota are built on hillsides that suffer constant mudslides.

Poor sanitation, limited access to affordable healthcare, and high levels of crime and violence against women affect physical and mental health. In the slums of Nairobi, Oxfam reports that people are almost twice as likely to be infected with HIV as their rural counterparts and child mortality rates are double those in rural areas, while a World Bank study found two-thirds of residents did not feel safe inside their settlements.

A constant hustle for casual, low-paid work – including hazardous occupations such as scavenging, begging and sex work – is the norm for most of our survey respondents.

In coastal slums of Jakarta, for example, a 2009 Reuters report found many people peeling shellfish for less than 12 cents a kilogram, while buying clean water was costing them as much as a dollar a day. Some poor women in Kampala scrape a living by hand-crushing rocks into gravel for pennies a bucket. Informal sector work tends to be irregular as well as poorly paid. Overall, across the nine countries covered by our report, only about half of the women surveyed (as against two-thirds of the men) were earning any income at the time of the survey.

Nevertheless, people living in urban slums are not a homogeneous group. Informal settlements attract a wide range of people. Some have been

"pushed" out of their home areas by one or many factors, such as violence or conflict (as in Colombia and Cameroon), the threat of forced early marriage (as in Kenya), or drought and landlessness (as in Uganda and India). But others have been "pulled" into cities by the prospect of making a better life, and they may possess significant resources such as education, savings and connections. Incomes also vary. For example, in Manila's informal settlements, according to a 2011 study based on official household survey data, about 50% of people live above the subsistence poverty line and can afford to spend $2-$4/day, while in 2014 the vast majority of Kampalans were classified by the government as "insecure non-poor". We segmented our survey data by education, work status and household wealth to get a more fine-grained picture of how these factors affect ICT access and use.

Premises, Aims and Methodology

Although it is important to establish systematic data on gender disparities in who is using ICTs, it is equally important to understand differences in how men and women are using ICTs. We set out to explore whether women and men are realising the same opportunities to enhance their political voice, economic chances and social capital through technology.

The many theories of women's empowerment converge in the idea that empowerment is the expansion of freedom of choice and action; it is, as Naila Kabeer puts it, the ability of people to make strategic life choices in a context where this ability was previously denied to them. Similarly, Amartya Sen defines development itself as "a process of expanding the real freedoms that people enjoy to lead the lives they have reason to value".

Empowerment is the expansion of freedom of choice and action.

Our research design was based on the framework developed by Anita Gurumurthy and Nandini Chami, drawing upon Kleine's Choice Framework to analyse how technology contributes to empowerment, understood as an expansion of choice. In their research on women, local governance and ICTs, Gurumurthy and Chami (2014) have noted that technology can increase the choices available to women in a number of interrelated ways:

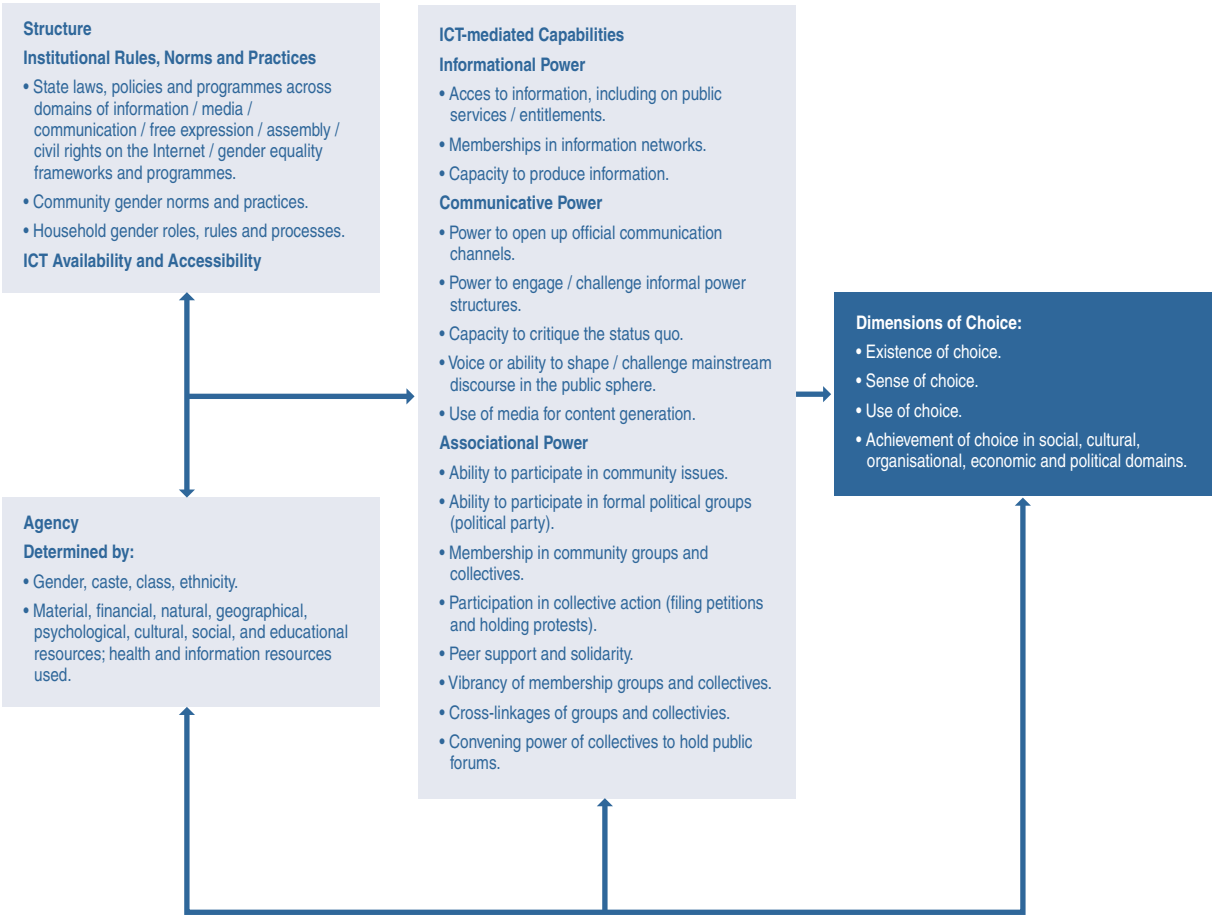
- It can increase **informational power** – for instance by allowing women greater access to relevant information and giving them capacity to produce their own information.
- It can boost **communicative power**, including giving women new communications channels, or allowing them to participate in existing communications channels on an equal footing to men.
- **Associational power** – gained through new linkages or greater ease of participation in existing structures – can also be enhanced.

We wanted to understand if, and how, women were harnessing this potential. We also set out to investigate the structural factors (such as costs, infrastructure, gender norms, and access to education) that affect women's ability to unlock these benefits.

Drawing on our findings, we have tried to identify concrete actions that governments and other actors can take to overcome the patterns of inequality in ICT use that we have uncovered, so that ICTs more effectively support women's capabilities and choice.[3]

Figure 1

Theoretical Framework developed by Gurumurthy and Chami, drawing on Kleine's (2008) Choice Framework and the Active Citizenship Framework of the Women-gov project (2014)



3 *Paper on the elements of the 'Equality of Autonomy' Framework forthcoming.*

3

THE GENDER GAP IN INTERNET ACCESS AND USE

3.1. Who is online?

Over four billion people (60% of the world's population) are still not connected to the Internet. Nine out of 10 of the unconnected are in the developing world.

This digital divide is sometimes symbolised by images that show Europe, North America and East Asia "lit up" with millions of Internet connections while Africa and South Asia languish in near-total darkness. On the other hand, some technology evangelists would have us believe that poverty and marginalisation in the developing world have been practically banished by the triumph of mobile phones.

However, our research shows that the digital divide is more complex than either narrative suggests. Far more men and women in poor urban communities are using the Internet[4] than national aggregate statistics would predict (see Table 1 below). For example, in slum areas of Maputo we found that more than six times as many people are online than the national average reported by the ITU; Internet use in poor neighbourhoods of Yaounde, Cameroon is more than triple that for the country as a whole; in Jakarta's informal settlements, levels of connectivity are almost double the national average.

This suggests the potential for technology to help slum-dwellers tackle their political exclusion and economic vulnerability may be even greater than previously thought. At the same time, it also points to the true scale of rural/urban disparities in Internet connectivity.

Even within urban areas, access is heavily skewed by gender, education, age and income. Rates of connectivity among the young men in our sample (ages 18-29) outstrip the national averages for some developed countries such as Italy and Portugal. Likewise, men with tertiary education in our sample are almost as likely to be online as the average American. However, among women with no formal education, only two in 100 are

4 *Taking note of other studies which show that people may not realise that using Facebook or other web-based platforms counts as "using the Internet", we designed our survey to specifically prompt for use of such platforms.*

Internet users. **Half as many women were online in the lowest income group as in the highest income group** in our sample.

Gender is a major factor in itself. Overall, 37% of women we surveyed are Internet users, against 59% of men. Controlling for the effects of education and household income, **women are about 50% less likely than men to use the Internet**.

The picture that emerges, in other words, is neither one of blanket digital exclusion nor one of inexorable digital progress – but one of extreme digital inequality. Those who are urban, male, young and well-educated are connecting at rates one would expect in much wealthier countries, while the poorest women with little schooling are largely shut out of the World Wide Web. In the next chapter, we unpack these disparities further.

Table 1

Country-specific overall Internet use and women's use in particular

	Urban Population (% of total) (World Bank)	Total % Internet users (WF)	Total % Male Internet Users (WF)	Total % Female Internet Users (WF)	Gender Gap in Internet Use (WF)*	% individuals using the Internet (ITU)[5]	UN HDI Gender Inequalit y Index rank) (2014)[6]
Yaounde Cameroon	43%	38%	45%	36%	-25%	11	130
Bogotá Colombia	76%	73%	76%	71%	-7%	52.57	92
New Delhi India	53%	46%	43%	47%	+9%	18	103
Jakarta Indonesia	16%	36%	50%	31%	-67%	17.14	115
Nairobi Kenya	47%	29%	57%	20%	-185%	43.40	--
Maputo Mozambique[7]	44%	40%	59%	33%	-79%	5.94	78
Lagos Nigeria	32%	44%	66%	36%	-83%	42.68	146
Manila Philippines	25%	45%	42%	46%	+9%	32.69	122
Kampala Uganda	32%	38%	61%	21%	-190%	17.71	115

* Gender Gap in Internet Use (WF): % Male Internet Users – % Female Internet Users / & Female Internet Users multiplied by 100 = % gap

5 *International Telecommunications Union (ITU) ICT Facts and Figures 2015 http://www.itu.int/en/ITU- D/Statistics/Pages/stat/default.aspx*

6 *UNDP's Gender Inequality Index (GII) captures the loss of human development achievement due to gender inequality using three dimensions: reproductive health, empowerment, and labour market participation.*

7 *Disparity between WRO data for total Internet users in Mozambique with ITU data on Internet penetration is likely due to the fact that 68% of Mozambique's population is rural. Our survey took place in Maputo which accounts for less than 6% of the total population of Mozambique.*

3.2. What determines who is online?

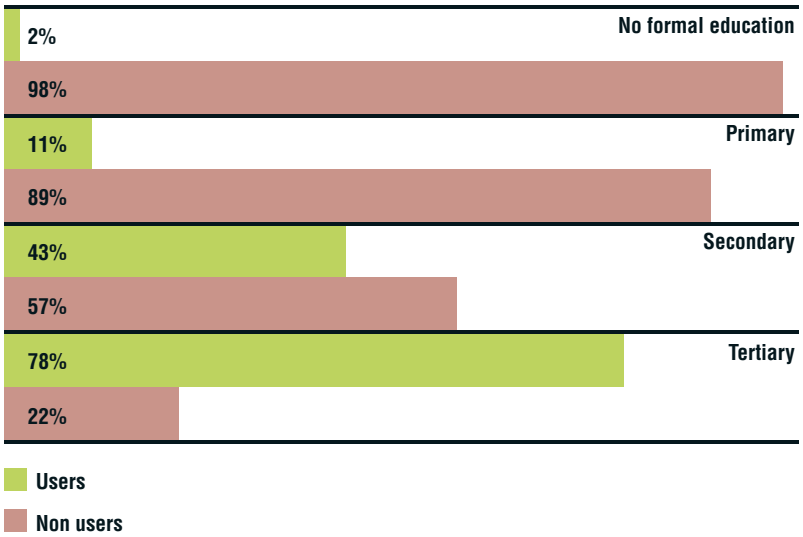
Education is the key

Education proves a very important determinant of Internet use among poor, urban women. Controlling for income, women who have some secondary education are six times more likely to be online than women who have primary education or no education.

Women who have some secondary education are six times more likely to be online than women who have primary education or no education.

Graph 1

Women's Internet use based on education level



Among women surveyed, a striking 92% of women who use the Internet have at least some secondary education. Only 2% of women with no formal education are online.

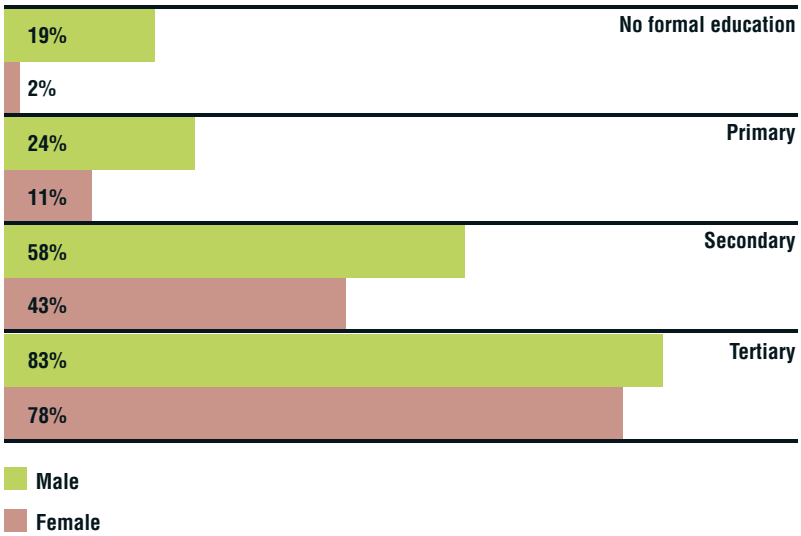
As education levels rise, the gender gap in connectivity diminishes.

Among those with tertiary education, only 6% fewer women than men are online. Among those with secondary education, the gender gap is 35%, but among those with primary education it skyrockets to 100%. Almost 10 times as many men as women are connected among those with no formal schooling.

Education is an important factor affecting men's Internet access too, but not quite so powerful a determinant as for women. Internet use among men without any formal education is 25% lower than among men who have been to primary school. Twice as many men with secondary education are online as men with primary education only.

Graph 2

Internet users by education level



Cities where our sample showed the highest gender gaps in education level, such as Nairobi, Kampala, Maputo, and Jakarta, were also the ones where the highest gender gaps in Internet access were reported.

Similarly, in the cities where a higher percentage of women than men sampled have at least a secondary education, which includes New Delhi and Manila, our data shows that the gender gap in Internet use has closed.

Higher levels of education are also correlated with more frequent Internet use. Seven in 10 connected women with tertiary education are online daily, versus only five in 10 with primary education. Frequency of use did not appear to be strongly influenced by gender or income level.

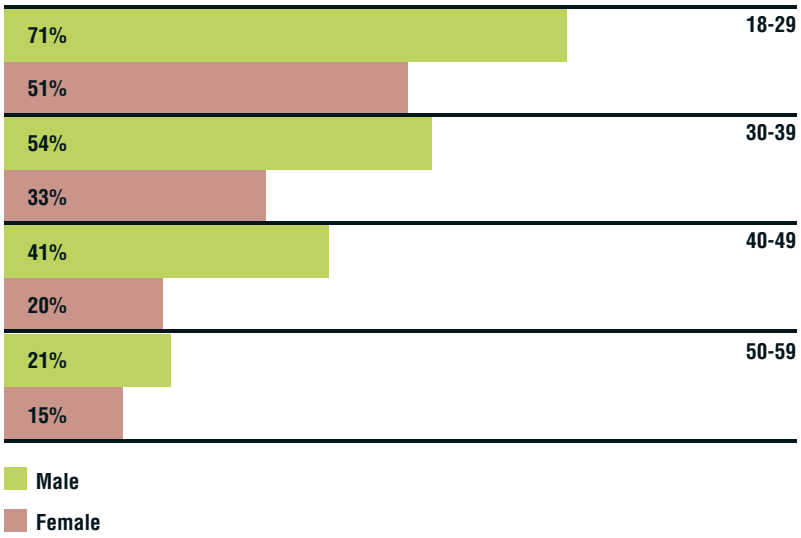
Age

Similarly, age matters – over 60% of poor, urban women and men between 18-29 years of age are online, compared to less than half of 30-39 year olds and only a quarter of over-40s.

But youth does not overcome all barriers to Internet use. While the Internet gender gap is somewhat smaller among the young, it is still sizeable. Among 18-29 year olds, there are still only seven women online for every 10 men (as compared to one woman to every two men online among 40-49 year olds). Education and income significantly constrain Internet adoption by young women, just as they do among older women.

Graph 3

Internet users based on age

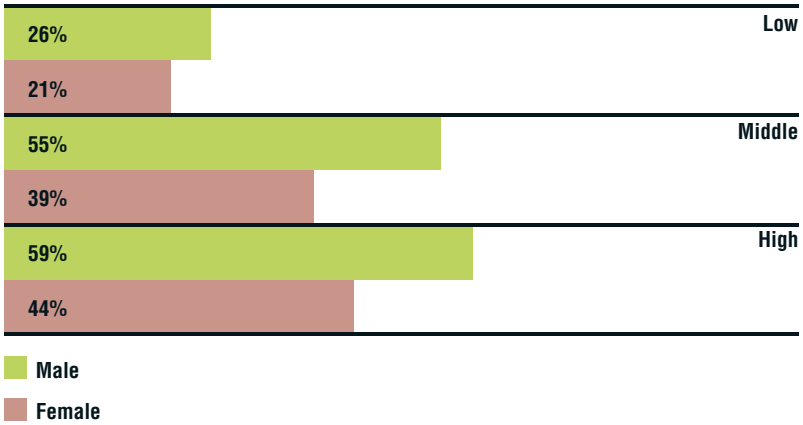


Income

We used country-specific indicators of household wealth (such as whether or not the household owns a car or motorbike and the type of roof on the dwelling) as a proxy for income levels, allowing us to stratify our sample into three groups, from most to least poor.[8] The poorer people are, the less likely they are to use the Internet. Only 21% of women in the lowest income group use the Internet, compared to 39% of women in the middle group and 44% of women in the highest. The gender gap in connectivity is smallest among the poorest, and highest at middle income levels. However, at every income level men are still more likely than women to be online.

Graph 4

% of Men and Women using the Internet based on household economic status



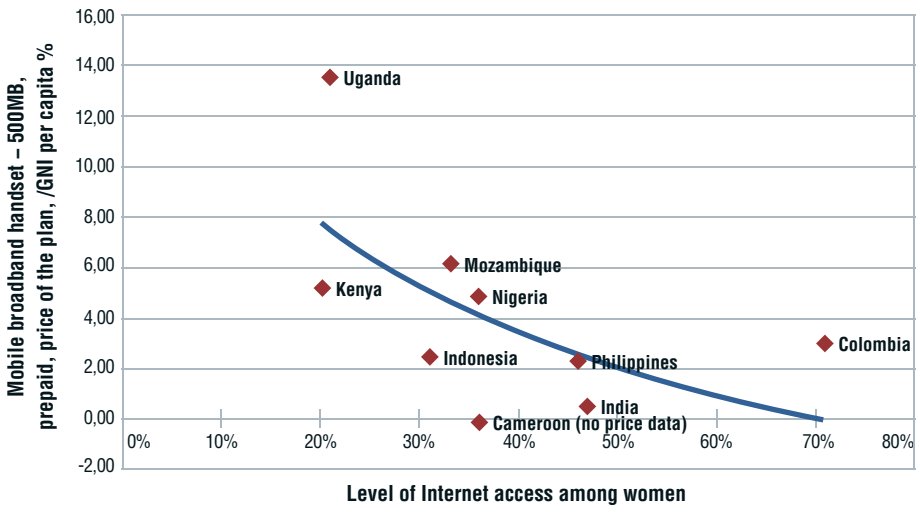
8 *We decided to use empirically observable wealth indicators as a way of mitigating the widely-known problems with self-reported income data in surveys like this. Please see Methodology Annex for details on the wealth index.*

Connectivity costs, as a proportion of average income, appear to significantly affect women's access. In the countries in our study, ITU data show that just one GB of prepaid mobile data (enough for just 13 minutes of Web use a day, excluding video) costs, on average, about 10% of average monthly per capita income. That's 10 times more than what the same data costs the average OECD citizen, relative to income, and is double what people in developing countries spend on healthcare.

The countries with the highest Internet costs (as a proportion of average per capita income) have the lowest numbers of women online and the largest gender gaps in Internet use.

Graph 5 [9]

Women's Internet access based on mobile broadband cost/GNI per capita %



Average income, calculated as Gross National Income (GNI) per capita, is a somewhat misleading guide to ICT affordability for the poor. Cost as a proportion of the income of the poorest 20% is a better benchmark, and measured against this benchmark, Internet access is still a luxury good for the poor in the countries we studied. Recent ITU analysis based on 2013 prices show that one GB of prepaid data would cost the poorest Filipinos 26% of their average monthly household income, 40% in Colombia, 48% in Uganda and 76% in Nigeria. And of course, these figures, being based on household income, do not account for the fact that women typically earn less and have less control over household resources than men. Preliminary analysis of our survey data on self-reported spending on Internet access confirms that in practice, the urban poor do sacrifice a significant proportion of their income to get online – ranging from around 8% of the consumption of the poorest two deciles in Jarkarta, to 34% in Kampala.

9 *The ITU does not collect mobile data costs for Cameroon.*

Civic engagement and political participation[10]

Statistical analysis revealed a strong relationship between Internet use and public-political participation. Women who engage in civic and political activity offline (such as attending community meetings, signing petitions, contacting public officials, or raising funds for a local school) are more likely to use the Internet, and use it more frequently, than others. Even controlling for education, income and age, women who participated in such activities just once in the previous six months were 1.5 times more likely to use the Internet, and those who participated more frequently were almost two times as likely to use the Internet.

Women who engage in civic and political activity offline are more likely to use the Internet, and use it more frequently.

It is difficult to say which way the causality runs without further research, but our interpretation is that women who are active in civic and political life are more likely to have the confidence to embrace the Internet, and/or to find it relevant. There may also be a feedback loop, whereby Internet use further boosts agency among those who are already engaged in civic life.

3.3. What barriers do women perceive?

We asked non-users to name the three most important factors that prevent them from getting online, and we also asked Internet users about the three biggest barriers that stop them using the Internet more often. The main barriers that women respondents reported were:

Know-How

"*I don't know how to use it*": "Not knowing how" to use the Internet was the barrier most widely cited by poor, urban women who don't use the Internet – a finding consistent with previous studies. It did not come through as an important concern for those already online, whether female or male.

Overall, women are 1.6 times more likely than men to report lack of skills as a barrier to Internet use. However, women's confidence in their digital abilities rises dramatically with increased education. Among those with little or no schooling, 40% of women and 33% of men say they "don't know how". This drops to 9% of men and 18% of women with secondary education, and only 3% of men and 5% of women with tertiary education. Household economic status was also a significant factor, but less influential than education. One in three women from the lowest income group noted lack of skills as a barrier, compared to one in four among other women.

Actual classroom training in digital skills is unlikely to explain the difference made by schooling, since practically no ICT training was on offer in schools at the time our respondents were enrolled. Rather, those

10 *Civic engagement and political participation was constructed as a composite measure which includes: attending a community meeting; signing a petition; contacting a local government official or office; calling a radio phone-in show or writing a letter to the newspaper; sharing views on an important or controversial issue through social media/Internet; organising activities or raising money for a school, place of worship, or community group; and participating in the meetings and activities of a political party or trade union.*

with more education may be more comfortable going online thanks to better literacy skills and greater fluency in English or other 'dominant' languages. As an Indonesian primary school graduate participating in one of our focus group discussions commented, "To learn about computer and Internet for me is very time consuming and it's hard to understand the language, because mostly it is in English".

Another powerful factor may be the general increases in confidence, status and sense of entitlement that education brings. Ethnographic research in Kisumu, Kenya, for example, suggests how strongly having a Facebook account is tied to social status and an image of modernity and sophistication (Wyche, Schoenebeck and Forte 2013). This relates to the point that "sense of choice" (refer to Figure 1) is key in explaining adoption or non-adoption of any new technology. The general belief that lack of formal schooling makes people ignorant or backward may lead less educated people to feel that the Internet is "not for them", a perception they express in terms of lack of skill or knowledge.

Age is also a strong factor affecting perceived skills: only 4% of men and 11% of women aged 18-29, across all education levels, reported that lack of know-how keeps them offline. This may point to a strong, self-reinforcing effect of informal peer interaction in overcoming skills gaps: since Internet use is much higher among the young, even those youths who are not yet connected themselves are very likely to become familiar with technology by interacting with friends, classmates and acquaintances.

Although women's self-reported digital competence rises strongly with education and with youth, they are still more likely to report a lack of know-how than men of similar age and/or similar educational attainment. This is an interesting puzzle demanding further research. It may simply mean that men are reluctant to admit to lacking ICT skills, or that women underestimate their ability because they are socialised to believe they are no good with technology – as has been shown by large-scale studies of young women's beliefs about their maths abilities. In addition, men, like young people, may have more informal opportunities for picking up digital skills. For instance, across our sample, they are more likely to be in waged employment and one might speculate that they are more likely to work in settings where the Internet is a routine tool for doing business. In some cities in our study, men are also much freer than women to move around and socialise in public places where others might be using technology, such as cafes, bars and marketplaces.

> *"To learn about computer and Internet for me is very time consuming and it's hard to understand the language because mostly it is in English."*
>
> Indonesian focus group participant

Cost

"I can't afford it", or "it is too expensive": Cost featured as the second most important concern for women who are not connected. Younger women aged 18-29, and women in the lowest income group, are most likely to say cost is a factor. A woman shop-owner in Jakarta commented, "I really want to learn how to use the Internet, but [mobile data] is still expensive, and there's no free Wi-Fi access in my area – I would have to travel to a shopping mall to get Wi-Fi."

Interestingly, men were more likely than women to note expense as a major reason for not using the Internet, or not using it more than they currently do. Over a third (36%) of male users cited cost as a major barrier to more frequent use, while 28% of male non-users mentioned it.

Among the unconnected, this male:female disparity may simply reflect greater awareness of data costs among men. However, among Internet users, 76% of women reported that they personally pay for their Internet access (as compared to 85% of men), hence they would presumably be well aware of costs[11].

> *"I really want to learn how to use the Internet, but [mobile data] is still expensive, and there's no free Wi-Fi access in my area – I would have to travel to a shopping mall to get Wi-Fi."*
>
> A woman shop owner in Jakarta

Time

Lack of time was the single most important barrier preventing women who are online from using the Internet more often. It was cited more often by women than men, and more often by the poorest women than by other income groups. This corresponds with findings that time poverty is a major dimension of urban women's experience of poverty, as summarised in this UN report:

> Poor housing conditions, distance from health services and schools, unsafe neighbourhoods (because of both environmental hazards and high rates of crime and violence), and limited access to water and sanitation put an additional burden on [women] who, within households, are responsible for childcare, food preparation, cleaning and washing. At the same time, however, income poverty also means that women ... need to engage in the cash economy, often in the lowest-paid formal- and informal-sector activities. As a result, women's days may involve as many as 17 hours working within and outside the home ... Time poverty and the related emotional stress is an important and specifically gendered element of multidimensional poverty (UNFPA 2012; see also OECD 2014).

Relevance

Survey options relating to the perceived relevance and usefulness of Internet content and services were the third most important barrier, both for women who are already connected and those who are not. Men were less likely to cite relevance as a concern than women.

11 *17% of women reported that their spouse or partner pays for their Internet access.*

For “time-poor” women engaged in the battle for urban survival described by UNFPA above, the decision to spend time online presents a real opportunity cost, and is therefore directly affected by the value people see in Internet services and applications. We could speculate that “I don’t have time to go online more often” may be another way of saying “The benefit I would get is not worth the time I would have to give up.” If this hypothesis was correct, then time and relevance combined would move into first place as the single biggest barrier to more intensive Internet use among connected women.

Infrastructure

Availability or quality of connection, and electricity to charge devices, were the fourth most important barrier for both women and men who are already online. However, as expected, the importance of infrastructure barriers varied by city, most likely reflecting city-by-city variations in areas such as 3G/4G coverage; spectrum availability; quality of service regulation; electricity supply; and/or availability of free public Wi-Fi schemes. The cities in our study where women were most likely to report infrastructure barriers were Maputo (16% of women), followed by New Delhi and Manila (7% of women in each case).

Infrastructure factors were not mentioned by significant numbers of non-users, suggesting that the obstacles posed by know-how, cost, time and relevance are perceived as so overwhelming that smaller details such as signal coverage or electricity supply might appear to be moot points.

Access to Internet-enabled devices

Lack of an Internet-enabled device and/or lack of access to a safe public access point were the fourth most important barrier for unconnected women and men alike. These issues were not reported as important by those who are already connected.

The mobile phone is by far the most common way for both women and men to get online, and about nine in 10 of those we surveyed did possess a phone of their own (with little difference between women and men).

The share of phone owners of both sexes who have smartphones is also quite high, at about 43% of women phone owners and 49% of men phone owners.[12] However, this varied widely by city, and in places where smartphone ownership was lowest among women, women’s Internet use was also lowest. In cities with the highest percentage of women online or where the gender gap has closed (Bogota, Manila and New Delhi), over half of women surveyed personally own smartphones. Kampala, Jakarta, and Nairobi, on the other hand, have both the lowest percentage of women online and also lower rates of female smartphone ownership than other countries in the study.

12 *Interviewers used picture cards to help respondents identify the type of phone they have. A smartphone is not a requirement for Internet use; most feature phones can use Internet-based services, and some platforms such as Facebook Zero have interfaces specifically designed for feature phones.*

Owning a smartphone or having access to safe, "respectable" public access facilities may be critical enablers for women in situations where their mobility is culturally constrained. In Kampala, for example, as one focus group discussion participant commented, it is perfectly acceptable for men to go to a restaurant to use Wi-Fi for any reason at all ("even surfing pornography"), but frowned on for women to do the same, even to send a document urgently requested at work. "Our society sees us as stay-at-home assets," she explained.

In addition to country differences in levels of device ownership, we also found gender and age differences in how people use their devices. The use of phones to access Internet-based services and content is relatively uncommon among both women and men, but women mobile phone owners are much more likely than men to limit their use to voice and SMS only. Young people aged 18-24 are over three times more likely than 55-60 year olds to access the Internet from their phones. Even among the young, however, only 55% of young men and 44% of young women who possess phones are using them for Internet-based applications and services.

Other factors

I am not allowed to use it, or the Internet is bad/inappropriate for me: The numbers of women and men who cited "appropriateness" or lack of permission as a major barrier were insignificant in all cities[13].

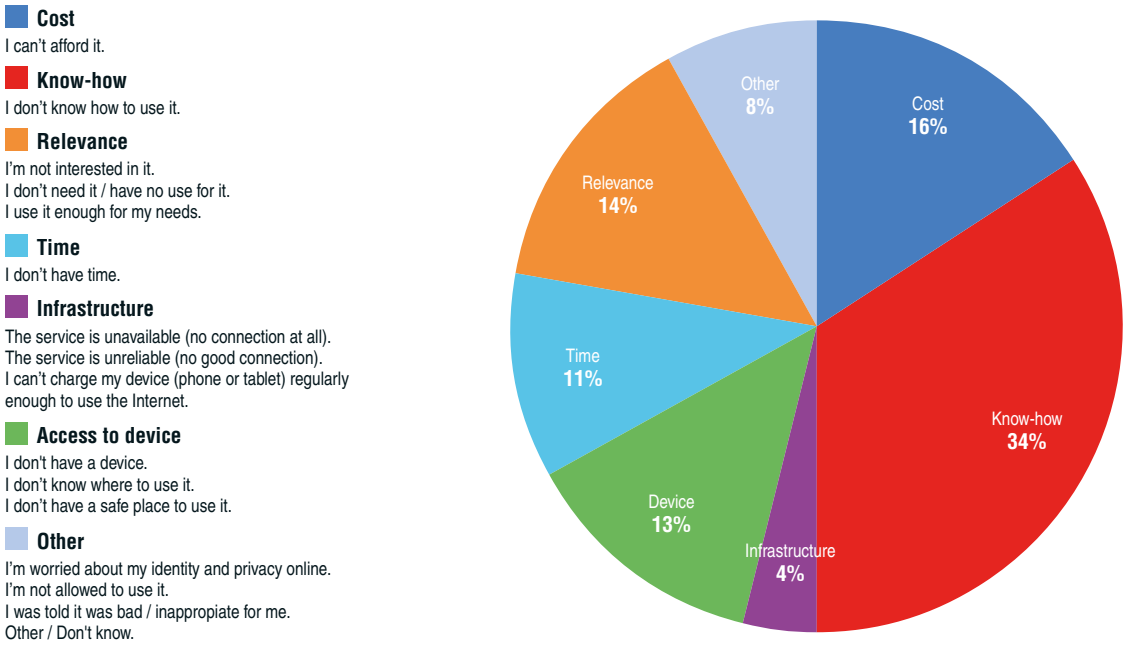
I'm worried about my privacy: Very few respondents of either sex in any city reported that concerns about privacy discourage them from using the Internet.

Owning a smartphone or having access to safe, "respectable" public access facilities may be critical enablers for women in situations where their mobility is culturally constrained.

It is perfectly acceptable for men to go to a restaurant to use Wi-Fi for any reason at all ("even surfing pornography"), but frowned on for women to do the same, even to send a document urgently requested at work.

Graph 6

Barriers to Internet use among female non users



13 *Our survey result is somewhat different from Dalberg's research for Intel, which found that one in five women in India and Egypt felt that the Internet is "not appropriate" for them.*

Graphs 7

Barriers to using the Internet more often (among female Internet users)

Cost
I can't afford it.

Know-how
I don't know how to use it.

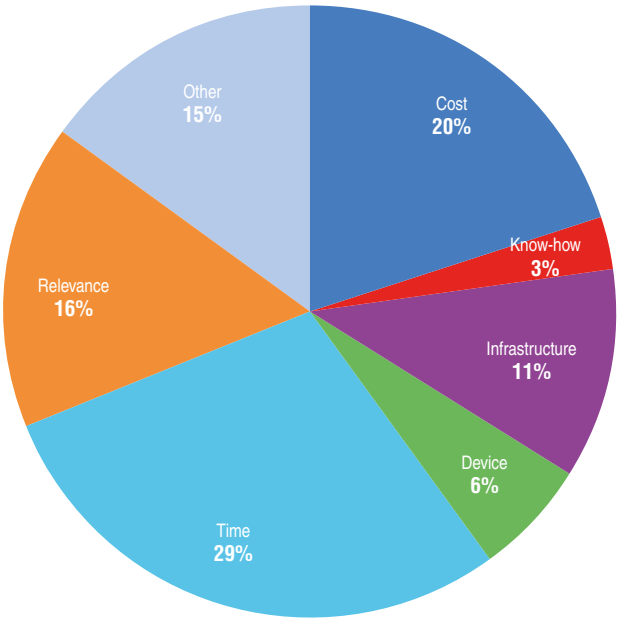
Relevance
I'm not interested in it.
I don't need it / have no use for it.
I use it enough for my needs.

Time
I don't have time.

Infrastructure
The service is unavailable (no connection at all).
The service is unreliable (no good connection).
I can't charge my device (phone or tablet) regularly enough to use the Internet.

Access to device
I don't have a device.
I don't know where to use it.
I don't have a safe place to use it.

Other
I'm worried about my identity and privacy online.
I'm not allowed to use it.
I was told it was bad / inappropiate for me.
Other / Don't know.



4

THE GENDER GAP IN DIGITAL EMPOWERMENT

The Web has the potential to nurture social, economic and political change, as exemplified by recent experiences from Brazil to North Africa to Hong Kong. Women can use it to amplify their political and creative voice, expand their associational life beyond the boundaries of the 'traditional' women's sphere, open up new opportunities to earn income or advance their education, and expand their aspirations and self-confidence (IT for Change). However, these advantages are neither immediate nor automatic. Here we examine how the Web – and especially social networking platforms, which are the entry point to the Web for almost all of those we surveyed – may be helping women expand their informational, communicative and associational capabilities and choices.

4.1. Social capital

Social ties are serious business in poor urban communities. As Woolcock (2005) notes:

> The urban poor … rely heavily on their friends and relatives to help them both 'get by' and 'get ahead.' Faced with institutions, policies, and services that are frequently hostile, inadequate, or indifferent to their concerns, the urban poor have little choice but to valiantly deploy a range of coping strategies, chief among them the use of their social networks, to provide everything from credit and physical security to information about housing and employment opportunities.

The norms and networks upholding these support mechanisms are often referred to as "social capital".

Sociologists distinguish between kinship and intracommunity ties (popularly referred to as "bonding" social capital); ties spanning spatial and demographic divides ("bridging" social capital); and ties spanning power differentials ("linking" social capital). While poor women may invest heavily in bonding social capital, their bridging and linking ties may be weak compared to men, especially more affluent men.

Reliance on social resources is a necessity, not a choice, for the poor, and can have negative consequences as well as benefits (Woolcock 2005):

> It is in and through people's immediate social networks that their identities, expectations, and self-worth are nurtured and sustained. These networks thus have a powerful influence on the type, range, and quality of information people receive and the options and opportunities to which they are exposed. … The often restricted but powerful networks … presiding over the lives of [the urban poor] may reinforce destructive behavior (Fernandez-Kelly 1995), perpetuate distrust, or limit their "capacity to aspire" (Appadurai 2004).

Almost all urban poor Internet users that we surveyed (97%) use social media, with eight in 10 using Facebook and just under half using WhatsApp.

Google+, YouTube and Twitter attract smaller audiences. Income level made little difference to social media use. Focus group discussions suggest that cost (the availability of "zero-rated" access from some mobile operators), local language content and user interfaces that work on more basic phones are key to the popularity of Facebook and Whatsapp.

However, the overwhelming importance to the poor of social uses of ICTs is another powerful factor in Facebook's popularity. Almost all Internet users, male and female, are exploiting social media platforms to sustain their existing social networks, a strategy that enhances "bonding" social capital (including through "real time updates", as women in Manila highlighted in our focus group discussions with them). Our findings are consistent with an IDRC study from East and Southern Africa, which suggests that such ties and reciprocities are greatly enhanced through ICTs.

About 49% of women social media users, compared to 59% of male social media users, report that they are also expanding their networks by making new friends and connections online – strategies that could help them to strengthen bridging and linking social capital.

Reinforcing and expanding social capital through ICTs has a direct economic benefit for the urban poor, for example by helping people to build social insurance networks. Ethnographic research in South Africa with migrants from across Africa shows that being connected helps facilitate new forms of bridging capital by creating the opportunity for migrants to explore new contacts through church and other religious networks (Hay 2014) and become part of home-village associations (Nyamnjoh 2014). Similarly, Cartier, Castells and Qui (2005) found that for rural-urban migrants in China, ICTs are critical tools for building and sustaining translocal networks, keeping migrants "connected with hometowns and family members as well as new friends and contacts, facilitating information flows about migratory experiences, job conditions, and business opportunities."

The ability to "bridge and link" through ICTs may be especially powerful for women, whose mobility (spatial, temporal and social) can be highly constrained by patriarchal norms and the constant threat of violence. In cities where violence against women is endemic, they may be "afraid to leave their homes except for essential visits for work and education" (UNFPA 2012). However, as Ling and Horst (2011) note, "Seen through the lens of power, the mobile phone changes the rules regarding who can interact with whom" (2011:370). Social media may extend this game-changing potential further – an area that merits further research.

Another area for further research is the extent to which social media help people escape the restrictive, conformist nature of the slum social networks described by Woolcock (2005). A major attraction of Facebook for the Kenyan Internet cafe customers studied by Wyche, Schoenebeck and Forte (2013) was the opportunity to connect with members of the diaspora and find new Facebook "friends" overseas – a classic example of "linking" social capital. Such connections were partly motivated by the pursuit of social status and the idea of possible economic gain, but also, and less instrumentally, by people's dreams and aspirations, which led them to want to cultivate a wider identity.

Unsurprisingly, a significant number (around 20%) of women and men say they use social media for entertainment or to pass time. Cultural knowledge, as Bourdieu points out, confers status and power. More research is needed to understand the extent to which the popular culture "repertoires" that the urban poor build online are helping them to expand their cultural capital and enhance their status – or simply to sustain their existing identity and relationships by keeping up with the celebrities, TV shows, music, and sports that are popular among those around them.

In our sample, students were the most proactive in using online platforms to expand social capital, with almost two-thirds seeking new connections through social media, regardless of gender. If the stereotype of students as experimenters and "strivers" holds true (something our surveys did not test), this might once again suggest that aspirations for a different life and exploration of possible alternative identities may be an important element of social media use among the urban poor.

A third area for research is the ways in which women grappling with the emotional and practical burdens of gender discrimination are to forge informal solidarity ties online with other women facing similar challenges – another form of "bridging". Evidence from the focus group discussions and Web Foundation partners suggests that the combination of anonymity and "instant community" that can be created online has been very powerful for women to face challenges such as the stigma surrounding abortion, or the intimidation and fear created by male harassment of women. In Egypt, HarassMap started life as a project to shed light on the problem of sexual harassment in public space using crowd-mapping

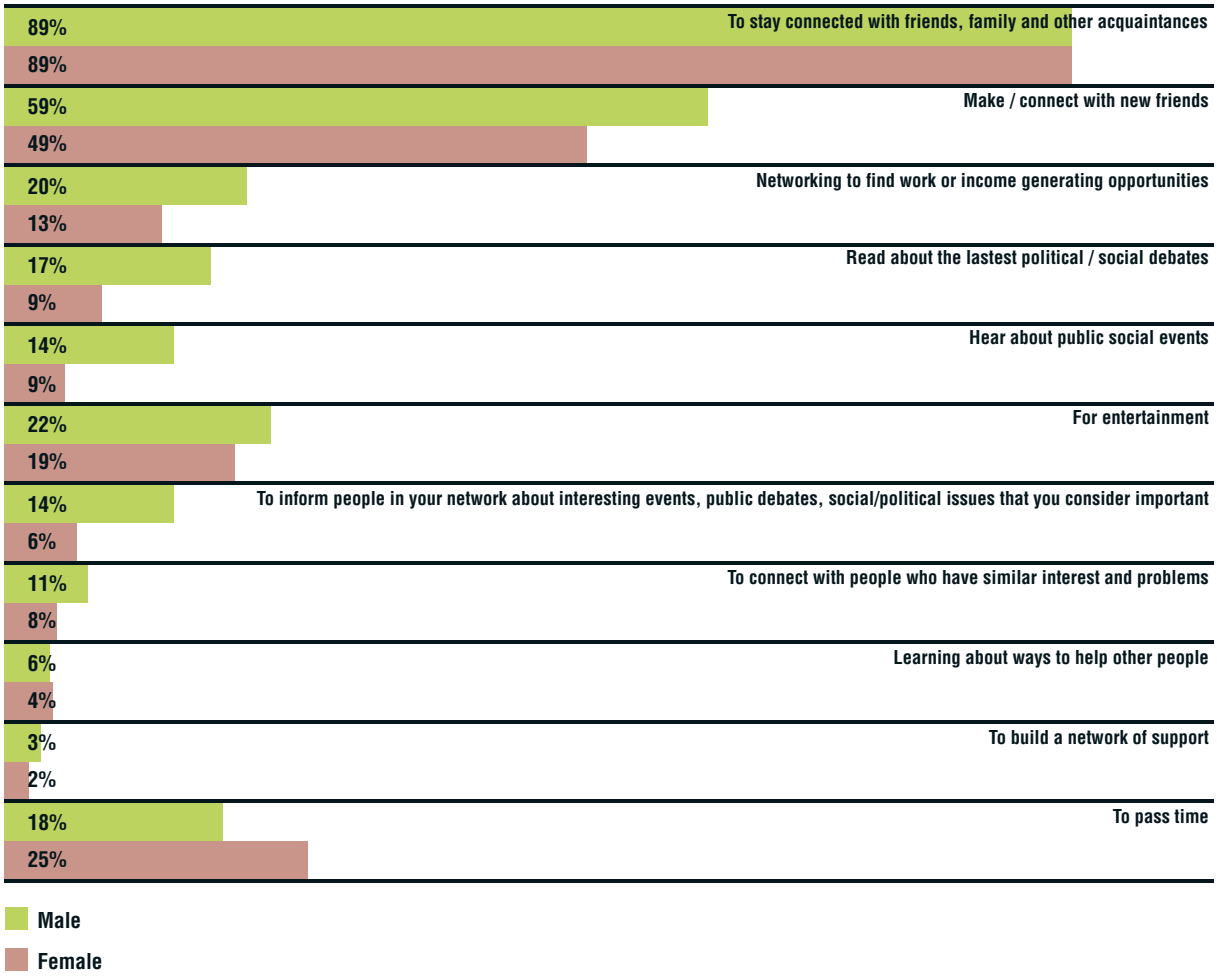
tools to report incidents of violence against women on the streets of Cairo and identify "hot spots". But women quickly started using it as a vehicle not only to report, but also to share anger and fear through longer narratives with details on how they felt, their personal opinions on patriarchal masculinity, or the lack of police and legal enforcements against sexual harassment. During the Egyptian revolution, HarassMap also evolved into a space for women who had been assaulted by the state to document their cases.

However, social media's power to quickly and easily forge new connections can also expose users – especially women – to new risks and vulnerabilities. In focus group discussions, young women in the Philippines described how competition to have the largest Facebook following led them to add complete strangers as friends. Only when they became more experienced users did they realise the risks to privacy and safety involved, and become more selective in their choices. Many young women who are active on social media face online misogyny and abuse, as described in section 5.1 below. Action to reduce these threats is needed if we want women to make full use of the "bridging" and "linking" power of social media.

Young women in the Philippines described how competition to have the largest Facebook following led them to add complete strangers as friends. Only when they became more experienced users did they realise the risks to privacy and safety involved.

Graph 8

Reasons for using social media (% of social media users)



4.2. Access to Information to Claim and Demand Rights

Does information online assist women to claim and demand their rights?

"TV and newspapers supply information but only give you what they want you to know. But if you want something personally, Google... Google tops it all." Male respondent, Nairobi.

Various dimensions of gender discrimination, some of them already outlined above (such as sociocultural constraints on mobility and network-building, educational inequalities and the disproportionate burden of unpaid care work) mean that women tend to have less access to knowledge than men and fewer institutional linkages, relying mainly on intimate networks for information. This ultimately deprives women of income and opportunities. In fact, a UNESCO report goes so far as to claim that after poverty and violence, the third major challenge facing women in developing countries is access to information (Primo 2003). To what extent are ICTs helping women to overcome this challenge?

Across the nine cities surveyed, only about 21% of female Internet users and 27% of male Internet users are seeking information online in important areas such as health, legal rights or public transport. Even the connected tend to rely on information passively "absorbed" from TV and radio, family and friends, or health and social workers, rather than proactively defining their own searches on the Web.

After poverty and violence, the third major challenge facing women in developing countries is access to information.

Only about 21% of female Internet users and 27% of male Internet users are seeking information online in important areas such as health, legal rights or public transport.

Table 2

Following links vs. seeking information

	Women Internet users using FB (%)	Men Internet users using FB (%)	Women FB users following link outside FB	Women Internet users seeking information online	Men FB users following link outside FB	Men Internet users seeking information online
Yaounde	**77%**	**81%**	**85%**	**20%**	**87%**	**22%**
Bogotá	**83%**	**89%**	**63%**	**29%**	**66%**	**33%**
New Delhi	**98%**	**96%**	**49%**	**17%**	**71%**	**28%**
Jakarta	**90%**	**94%**	**82%**	**26%**	**85%**	**28%**
Nairobi	**74%**	**88%**	**58%**	**25%**	**66%**	**41%**
Maputo	**78%**	**88%**	**77%**	**15%**	**75%**	**23%**
Lagos	**92%**	**95%**	**74%**	**21%**	**73%**	**23%**
Manila	**97%**	**95%**	**48%**	**18%**	**71%**	**28%**
Kampala	**91%**	**83%**	**48%**	**20%**	**61%**	**13%**
TOTAL	**87%**	**90%**	**65%**	**21%**	**73%**	**27%**

Health is the most popular topic for online information-seeking. Just over a third of women who use the Internet have gone online for advice about common illnesses like malaria or flu, while just under a quarter have searched for sexual and reproductive health information. One in five have gone online to find out about their legal rights on issues such as inheritance or divorce.

We investigated concerns that Facebook and other social networking platforms – the most popular Web service for most of the urban poor – may confine users to a "walled garden" that militates against active information-seeking and exploration. At least as proxied by the numbers of users who follow links to other Web pages outside of Facebook, this does not seem to be the case. A large majority of both male and female Facebook users (65% of women and 73% of men) reported clicking on links to take them outside of Facebook. The proportion of female Facebook users following links outside the platform was lowest in Manila, New Delhi and Kampala, but even in these cities it was just under 50%.

Age, education and income strongly influence information-seeking behaviour on the Internet:

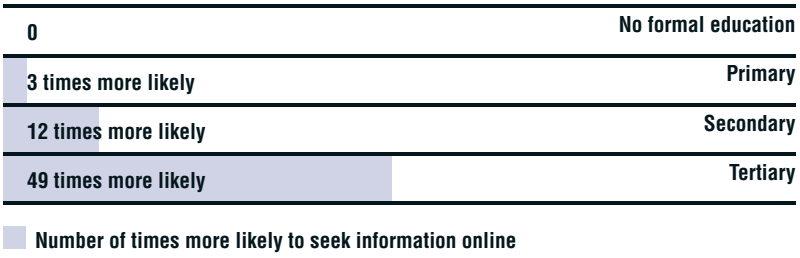
- Connected young people (age 18-24 years) are more likely than other age groups to use the Internet to find important information.
- Connected women with primary school education are 2.7 times more likely to seek information online than women with no formal education; connected women with secondary school education are 12 times more likely to do so; and connected women with tertiary education are 49 times more likely to do so than women with lower levels of schooling (see graph below).
- Respondents from higher income households were 1.3 times more likely to access information online than those from the poorest households.

When controlling for all these factors, we found that women are still 20% less likely than men to use the Internet to find information.

We found that women are still 20% less likely than men to use the Internet to find information.

Graph 9

When women's education levels increase, the probability of using the Internet to seek information increases



Civic and political engagement offline is the single most important determinant of online information-seeking.

Individuals who were politically active[14] just once in the six months preceding the survey were nearly twice as likely to look for information online than those who had not been politically active in the previous six months.

Women who were politically active more than once in the past six months were twice as likely as other women to cite at least one way in which the Internet is "very valuable" or "fairly valuable" to them.

The survey also revealed that in some countries, a large proportion of women have never sought information anywhere – especially with respect to sexual and reproductive health, and legal rights. For example, 64% of women surveyed in Bogota, 60% in Jakarta and 57% of women surveyed in Lagos have never sought out information from any source about their legal rights.

Our findings suggest that the "basket of basic services" approach – in which users receive free access to a handpicked selection of websites or apps giving information on key topics such as health – may not be as beneficial for development as hoped.

The strong relationship between offline political activity and online information seeking suggests that encouraging agency and voice through ICTs is more important than pushing "improving" content to the poor. Such an approach is likely to require that users can explore and define the Internet for themselves.

Table 3

Percentage of women who have never looked for information on sexual and reproductive health or legal rights

	"I have never looked for this information anywhere" sexual and reproductive health	"I have never looked for this information anywhere" legal rights
	% women surveyed	
Yaounde	12%	32%
Bogotá	39%	64%
New Delhi	16%	25%
Jakarta	21%	60%
Nairobi	9%	25%
Maputo	5%	37%
Lagos	38%	57%
Manila	16%	26%
Kampala	16%	39%
TOTAL	19%	41%

14 *Political activity offline was defined as: a) Attending a community meeting to discuss an important or controversial issue; b) Signing a petition about an important or controversial issue; c) Contacting a local government official or office; d) Calling a radio phone-in show; e) Writing a letter to the newspaper; f) Sharing views on an important or controversial issue through social media/Internet; g) Organising activities or raising money for a school, place of worship, or community group; h) Participating in the meetings and activities of a political party or trade union.*

4.3. Civic Engagement and Political Voice

Has the Internet increased women's voices in civic space?

The Internet, when used creatively, can help women, especially poor and marginalised women, gain a greater voice in public debate. Despite the cost of data and devices and the need for a certain level of digital know-how, it can still be easier and less intimidating to post a comment online than, say, to travel to a public meeting and gain the floor to speak, or seek an audience with a public official or get a letter published in a mainstream newspaper.

Generally speaking, both the women and men in our sample were strongly supportive of people's rights to speak their minds in public.

About nine in 10 people surveyed, irrespective of gender, believe that people should have the right to express controversial views freely without being harmed as a result.

Eight in 10 of male and female Internet users believe that people should have the right to debate any subject online without government interference. 70% of all men surveyed and 63% of women believe that the media should have the right to publish views and ideas without government interference. This remains the same for men who are Internet users, and increases slightly to 70% among women who use the Internet.

In contrast to a smaller study carried out for Intel, which found that "even women with Internet access were unaware of its potential utility beyond being a gateway to familiar sites such as Facebook and YouTube", a large majority (62%) of the women we surveyed report that they value the Internet as a space for commenting on important issues.

Almost half of women surveyed feel that the Internet has made it safer for women to express their views.

The more frequently a woman uses the Internet, the more likely she is to report this.

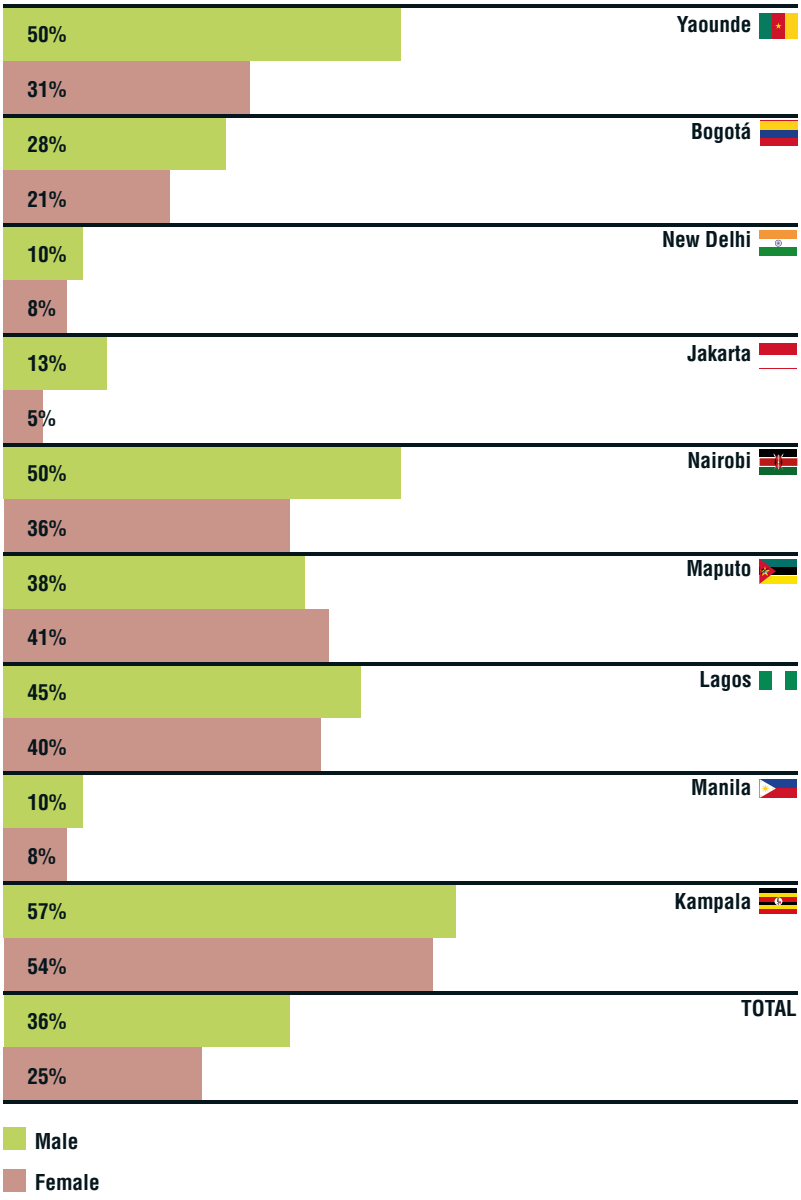
Yet, only 25% of female Internet users and 36% of male Internet users have used the Internet to share their views on controversial issues in the past six months. Among connected men and women alike, a significant majority of those who do participate in political life online have at least some secondary education and/or belong to the more affluent groups in our sample. Young people, 18-29 years, are also more likely to engage in these activities.

Overall, however, when controlling for education, work status, and household economic status, women are 52% less likely than men to express controversial views online.

This does vary widely by city, however. Interestingly, the African women (and men) in our sample are more vocal online than their Asian and Latin American counterparts.[15]

Graph 10

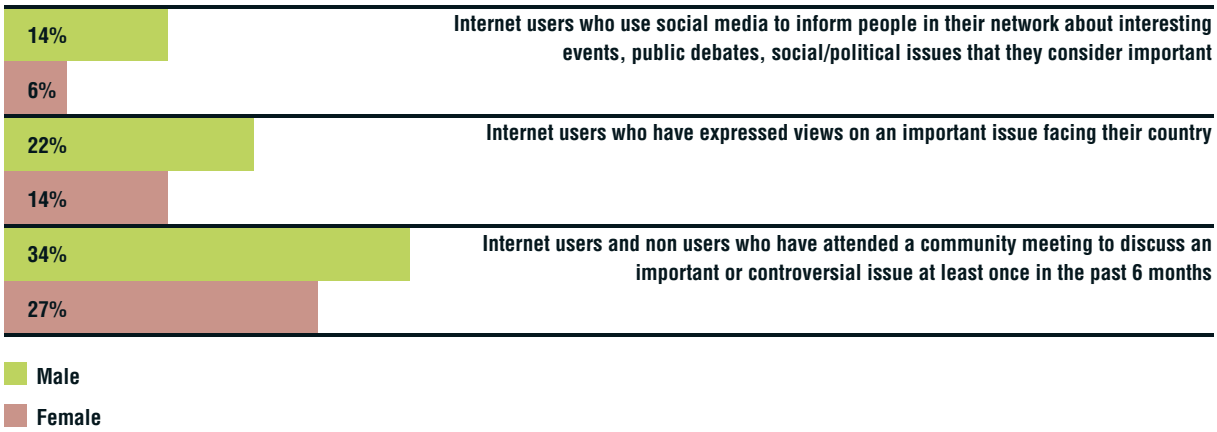
Percentage of Internet users who have shared their views on an important or controversial issue through social media/Internet more than once in last 6 months



15 *The extent to which governments encourage or restrict free expression online or offline appears to have little impact on poor people's use of the Internet to voice their views, as highlighted by the findings for India and the Philippines (both countries with a relatively strong tradition of free and open political debate).*

Graph 11

Internet use and political activity



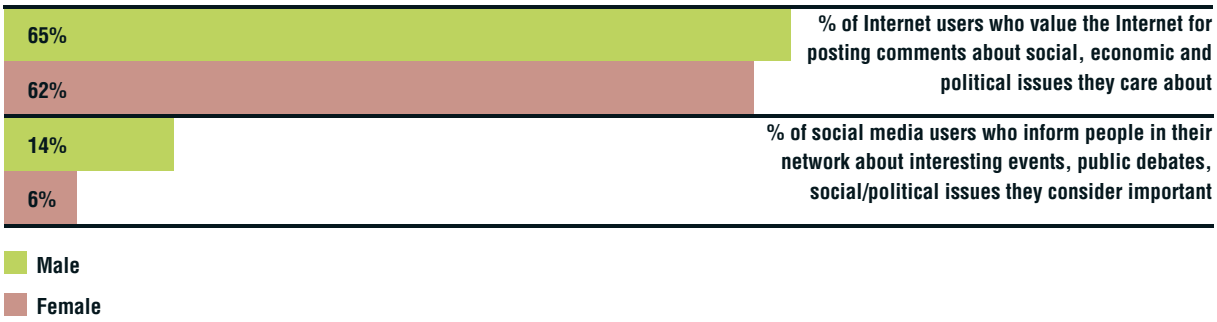
Similarly, only a small minority of Internet users say they use social media to keep up with current political debates (9% of women and 17% of men) or to inform people in their network about events and issues that they consider important (6% of women and 14% of men). Yaounde was the exception with 38% of men and 28% of women surveyed using social media to keep up with political debates (perhaps influenced by the fact that our fieldwork coincided with the Boko Haram incursions into Cameroon). A relatively high percentage of respondents in Kampala also use social media to stay politically informed compared to other cities, though with a large gender gap (30% of men and 15% of women). Use of social media to share information about events and issues one considers important was highest in Jakarta (23% of men and 16% of women) and Lagos (23% of men and 10% of women) – perhaps influenced by presidential elections in Nigeria around the time of the research.

Overall, our findings suggest that poor urban women understand and value the Internet's potential as a tool for having a say in public affairs – but do not appropriate it themselves. This is worrying because it means that if current patterns of technology use persist, the growth in Internet adoption won't do anything to challenge or change the subordination of poor women in civic and political life.

In this sense, the digital revolution could reinforce existing gender and class inequalities, social norms and gender roles.

Graph 12

Use of the Internet for sharing information about social, economic and political issues

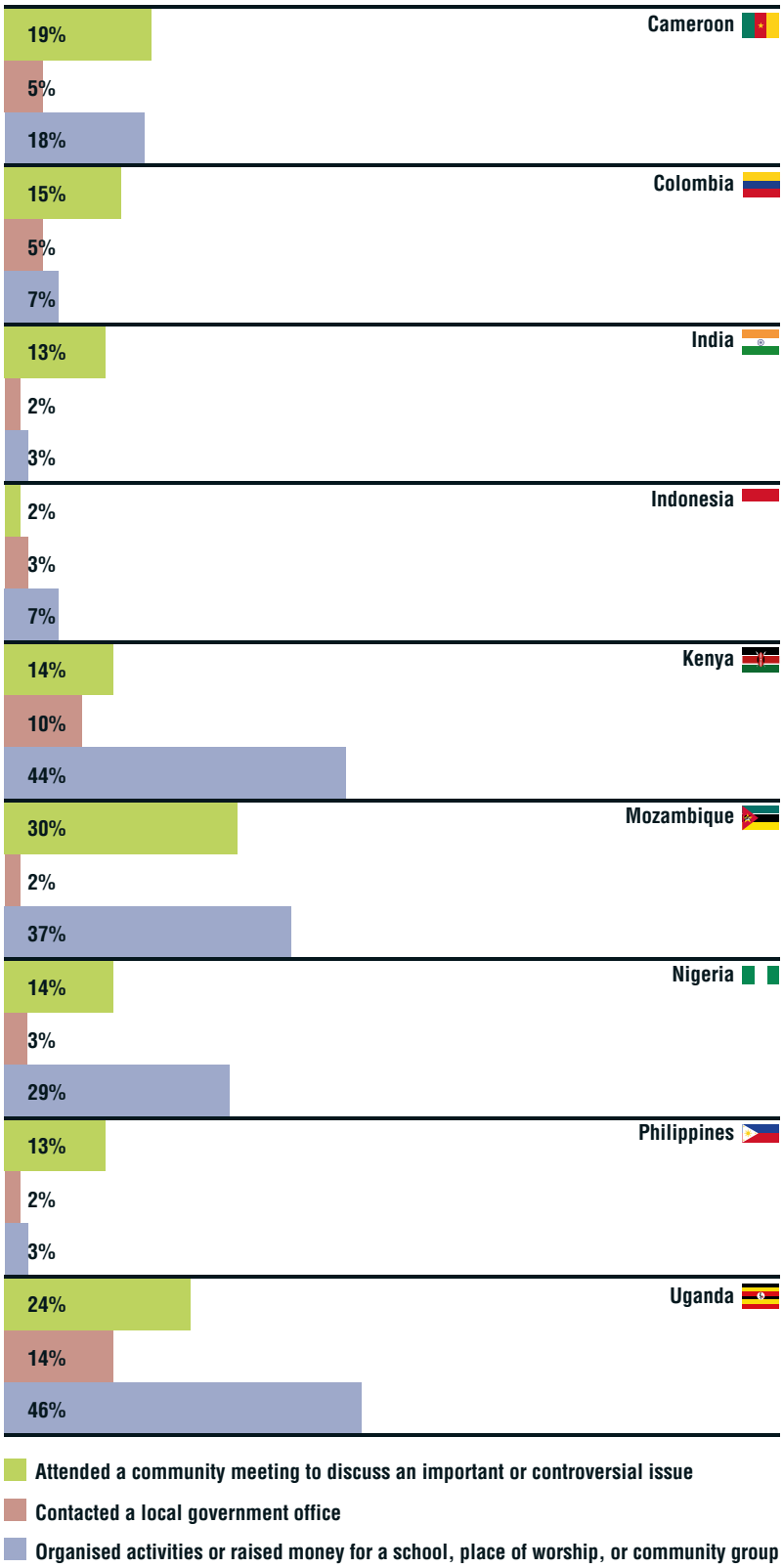


The very interesting exception to this trend is the minority of women who are active in political and civic life offline. Controlling for education, age and income, these women are three times more likely to use the Internet to express opinions on important or controversial issues than other women. This exception suggests that cultural norms and internalised stereotypes may pose very high barriers to women's political activity online. Women who have already overcome those barriers offline, by taking on active roles in community and political life, are much more likely to have the confidence to do so online.

Online engagement may also encourage and reinforce offline involvement. The founder of Digital Democracy says that in their work in developing countries they find "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" (Intel 2013).

Graph 13

Women's civic engagement and political participation offline



4.4. Economic Opportunity

Have technology and the Internet expanded economic opportunity for women?

Digital technologies can open up new opportunities for entrepreneurs, enhance access to financial services and credit, broaden job search prospects, or even create new forms of flexible, home-based work. A significant proportion of urban poor users, albeit more men than women, are exploiting the Internet to enhance their economic opportunities. About 34% of women Internet users have looked for a job online, compared with 39% of male Internet users. However, when controlling for the effects of age, education, employment status and income, women are 25% less likely to use the Internet for job-seeking than men. Qualitative research further supported this finding: for example, in Nairobi, famed for the entrepreneurial energies of its residents, fewer women than men said they were using the Internet to sell their products and services.

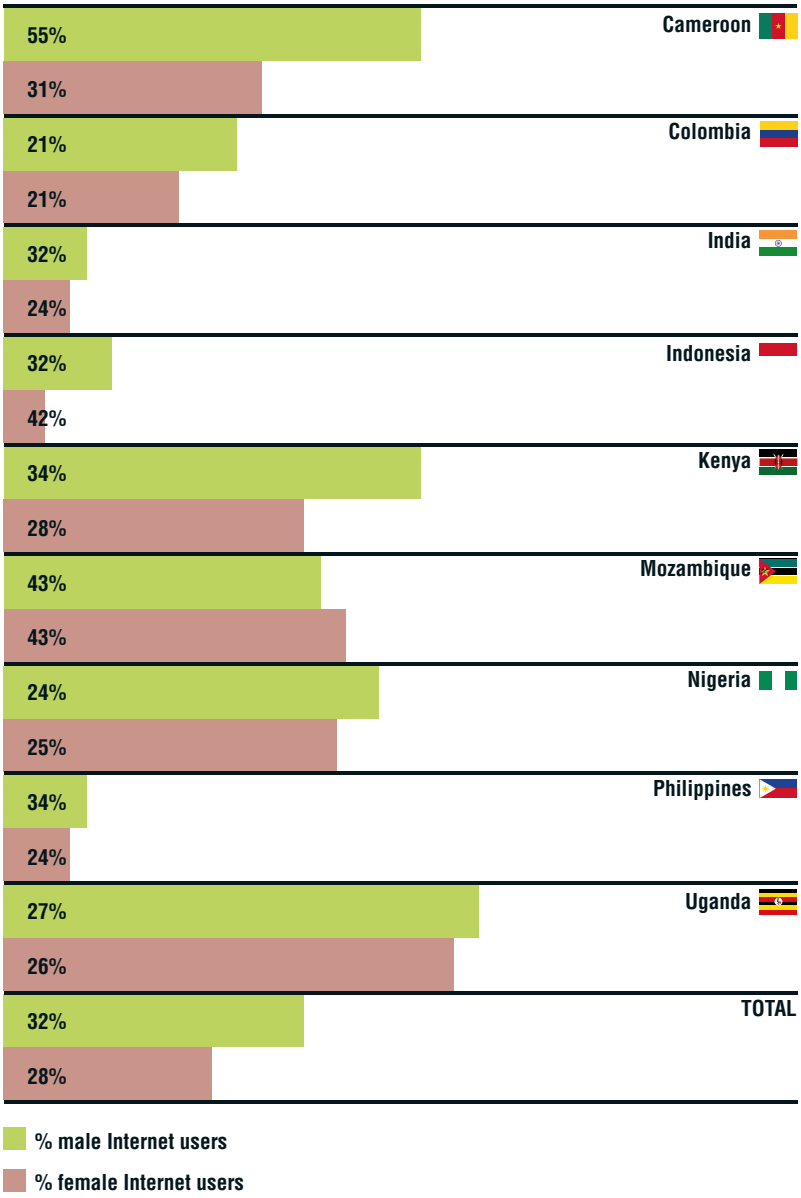
The gender gap in using the Web to look for jobs is largest in Maputo, New Delhi, Manila and Yaounde. These were also the cities with the smallest proportions of women in regular waged employment, suggesting that for women in the informal sector, traditional face-to-face relationships continue to be the most important way to find work. In Lagos, however, more women than men use the Internet to look for jobs.

Women and men aged 35 and above are less likely to use the Internet for job seeking than those who are in the age group of 18-24 years. Women with higher levels of education are twice as likely as others to use the Internet for job seeking.

The frequency of Internet use has a significant impact on whether women use the Internet to look for a job. Women who reported using the Internet daily and weekly were five times more likely to use the Internet for job-seeking than those who used it less often.

Graph 14

% of Internet users for whom the Internet has allowed them to increase their incomes "somewhat" or "a great deal"



About three in 10 female Internet users report that using the Internet has helped them to increase their income “a great deal” or “somewhat” – more or less the same proportion as among male Internet users. However, 19% fewer connected women than men say that the Internet has increased their incomes “a great deal”. Women who use the Internet daily are 2.7 times more likely to report that the Internet helped increase their income than those who use it only a few times a month.

5

CONSTRAINTS

Why are empowering uses of technology less prevalent than we hoped to find?

As we have seen, those who are well-educated, young and relatively more affluent are most likely to be using the Internet and using it in empowering ways. Overall, however, the number of men and women in urban poor communities who are using the Internet to exercise a political voice, pursue economic gain, or seek out information is very small – regardless of age, education level or income. Although more research is needed, our surveys and focus group discussions enabled initial exploration of the possible reasons that this might be so.

5.1. Online Harassment

Overall, reported experience of harassment and abuse was low. Only around 13% of women (and 18% of men) said they had experienced such incidents via phone call or text message, while 13% of women and 11% of men who use the Internet had suffered abuse via emails or social media posts.

Incidents of abuse via mobile phone and the Internet most often reported by women included offensive or threatening voice calls and SMS text messages or emails, and hateful, offensive, or insulting comments posted about them on the Internet[16]. Only a very small number of women across all cities surveyed reported cyber-stalking (e.g. use of social media to track movements and online activity), sexual coercion or luring (e.g. coerced into removing clothes, posing) or non-consensual distribution of photos/videos (e.g. posted by partner, ex-partner or anyone else without permission).

However, a survey methodology is not conducive to discussing intimate issues, and gender-based harassment tends to go under-reported worldwide. Hence our findings may well underestimate both the extent and the seriousness of the abuse women are experiencing.

16 *Questions on harassment (as all questions in the survey) were designed in close collaboration with Women's Right Onine country partners and are based on local knowledge of colloquial language and translation. The questions were field tested and refined during a pilot test of the questionnaire.*

It is striking that the two cities with the lowest rate of Internet access among women – Nairobi and Kampala – also reported extremely high rates of online harassment of women, suggesting that where such abuse is widespread, it may indeed be a factor severely inhibiting women's use of the Internet.

In both contexts, qualitative data indicates high prevalence of intimate partner abuse that extends to online spaces.

Additionally, instances of online abuse were much higher among the youngest women and men, aged 18-24 years old: over six in ten of connected women and men in this age group had experienced it, rising to nearly seven in ten of the young women who use the Internet daily. This is a matter of great concern since it is also among the youngest age group that we found greatest potential for women to leverage ICTs for empowerment.

Table 4

Number of respondents who have experienced online harassment

	Women and men who have experienced threats or direct personal bullying (including harassment or stalking) when using a **mobile phone** in the past two years		Women and men who have experienced threats or direct personal bullying (including harassment or stalking) on the Internet in the past two years	
	% Women Sample	**% Men Sample**	**% Women Sample**	**% Men Sample**
Yaounde	**16%**	**11%**	**15%**	**12%**
Bogotá	**4%**	**4%**	**4%**	**2%**
New Delhi	**6%**	**6%**	**10%**	**10%**
Jakarta	**28%**	**19%**	**9%**	**3%**
Nairobi	**17%**	**60%**	**21%**	**19%**
Maputo	**12%**	**16%**	**17%**	**14%**
Lagos	**8%**	**23%**	**10%**	**17%**
Manila	**5%**	**5%**	**8%**	**8%**
Kampala	**21%**	**17%**	**45%**	**8%**

Women's responses to online harassment

Women's main responses to digital harassment are to report the incident to friends and family, block or unfriend contacts on social networks or confront the perpetrator. Of those women who were harassed online or via mobile phone, one in four did nothing at all about it. The main reasons reported for inaction were: "it's not worth reporting", "it happens all the time" and "authorities don't care". In Kenya for instance, the legal framework safeguarding security online is generic in nature, and does not pay special attention to women and girls. In fact, it completely fails to mention online gender-based harassment. And in Uganda, law enforcement against cyber-crimes is weak (WOUGNET).

A participant in focus group discussions in Bogota explained:

> "I've submitted complaints to Facebook and Twitter, but the response has been non- existent. The authorities act very poorly. That is causing self-censorship… I've also changed my habits: I closed my Facebook account because I saw it was a more hostile environment. I control more than before what I say, where and with who I am. I feel more intimidated and more vulnerable [on social networks]."

I've submitted complaints to Facebook and Twitter, but the response has been non-existent. The authorities act very poorly. That is causing self-censorship.

Qualitative data from our focus group discussions shows that the police may also take away women's phones or dismiss their complaints.

5.2. Patriarchal attitudes to the Internet

We explored the extent to which patriarchal norms may be spilling over into the digital realm and if so, whether this is correlated with lower Internet use among women.

Our study showed that overall three in 10 men surveyed (but only two in 10 women) believe that:

Men have priority over women when it comes to accessing the Internet – this was a particular concern in New Delhi and the Manila, where 60% of men in each city agreed with this statement. In Kampala a third of women agreed with this.

Men have the responsibility to restrict what women access on the Internet – over half of men in New Delhi and Manila, and over a third of men in Yaounde and Jakarta and Kampala, agreed with this statement. Among women, Kampala again noted the highest number in agreement (26%).

Women should be restricted from using the Internet in public places on their own – In New Delhi 65% of men agreed with this statement, 63% of men in Manila and over a third of men in Yaounde, Jakarta, Lagos and Kampala.

Patriarchal attitudes are slightly less common among connected than unconnected men, with an average of 28% of male Internet users and only 17% of female Internet users agreeing with the above statements.

Men were most likely to express conservative attitudes about women's freedom to use the Internet in New Delhi and Manila – cities with the highest rates of Internet access among women – suggesting that such views are not a strong factor stopping women going online.

However, as focus groups conducted by Intel suggest, they may be a factor leading women to restrict what they do and say online, or how often they go online. Even in cities where patriarchal attitudes amongst men were less common, patriarchy as a form of social control may have debilitating effects at the micro-level (e.g. within the household) by placing women second in line to benefit from technology, if given the chance at all. Further research is needed to explore these hypotheses.

5.3. Offline marginalisation

As discussed above, our survey showed that a very small percentage of men in urban poor communities, and an even smaller percentage of women, are actively involved in civic or political life, or tend to seek out information (from any source) on critical topics.

This in turn reflects discrimination by gender and class, as well as lack of "bridging" and "linking" social capital, especially among women. As Oxfam observes of Nairobi's informal settlements, a weak social capital asset base (including "reduced connections with extended family members residing in the rural home, the limited presence of community based organisations or local non-governmental organisations..., lack of involvement in community activities, infrequent contact with village and community leaders, and limited access and sharing of information") limits slum-dwellers' voice and their ability to engage with both government and non-governmental organisations to access resources or assert their rights.

Consistent with the vast body of work on urban poverty, economic vulnerability was also high in our sample among women respondents – very few of whom had regular waged employment.

While employment status did not seem to have much impact on the level and quality of women's Internet use, offline civic and political engagement definitely did, and so did education, which is often associated with higher social status, an increased sense of self-efficacy and confidence and greater bargaining power in one's family and community. These factors strongly increased the likelihood that women would be connected and using the Internet to participate in public life, to enhance economic opportunities or to expand social capital through online strategies for "bridging" and "linking" beyond the existing limits of kin and community.

Our findings suggest that cultural norms of gender and class, which consign women and the poor to subordinate roles, may pose very high barriers to women's political activity online.

Women who have already overcome those barriers offline, by taking on active roles in community and political life, are much more likely to have the confidence to do so online. Offline agency and status is a powerful enabler of online empowerment (and possibly vice-versa). Conversely, real world and virtual experiences of exclusion and passivity may reinforce one another. More research is needed to better understand how these interdependencies work so that they can be harnessed for positive change.

6

CONCLUSION AND RECOMMENDATIONS: CLOSING THE GENDER GAP IN ICT POLICY

We will not achieve the SDGs on universal Internet access and empowerment of women through ICTs unless technology policy is specifically designed to tackle and overcome the steep inequalities of gender, education and income outlined in this study. Blanket initiatives to "connect everyone" will have less impact on the SDG targets than focused programmes to enable women and the poorest to get online, to overcome disparities in ICT skills and capabilities, and to design applications, services and content that are relevant to women's challenges and needs.

The truism that the World Wide Web is ultimately a social phenomenon is nowhere more true than among the urban poor. Our findings suggest that the primary value of the Internet to developing world urban dwellers, male and female alike, is, at present, social rather than informational, economic or political. The use of ICTs to reinforce and expand social ties is a two-edged sword. Social capital is critical to the coping strategies of the urban poor, and the Internet's potential to enable women to develop more "bridging" and "linking" relationships could make an especially important contribution to their empowerment. However, ideally the social uses of the Internet would serve as an entry point that also enables women to expand their informational, economic and political power, and that is not happening to nearly the extent needed.

The online realm presents women and girls with liberating opportunities to gain their own voice in civic and political life, increase their economic autonomy, and experience a sense of self- efficacy as well as solidarity. Many women we surveyed recognise and value these possibilities, but most are not yet appropriating them. To open the door to real digital empowerment, policymakers must tackle constraints such as the cripplingly high cost of access; the prevalence of harassment and abuse confronting young women in particular in their online lives; the extension of patriarchal norms in the digital arena; and the continuing silencing of women in public life.

Blanket initiatives to "connect everyone" will have less impact on the SDG targets than focused programmes to enable women and the poorest to get online.

The close relationship that we found between civic engagement and digital empowerment suggests that we need an integrated approach to advancing women's agency, autonomy and voice both online and offline.

Urban poor women are extremely marginalised when it comes to access to information, political voice, income-earning power and participation in civic life. Against this bleak backdrop, the small percentage of urban poor women who are using ICTs to seek out information, engage in public life, and enhance their economic opportunities is a seed of hope that must be nurtured.

Recommendations

We will not achieve the SDGs on universal Internet access and empowerment of women through ICTs unless technology policy is specifically designed to tackle and overcome the steep inequalities of gender, education and income outlined in this study.

While specific priorities will vary by country, **fundamentals include**:

1. Establish time-bound targets for equity in Internet access, use and skills, by gender and income level.

Our 2014 Web Index shows that many national ICT strategies or broadband plans include, at most, a rhetorical commitment to gender equity. A few have a patchwork of interesting but small-scale programmes and initiatives but lack overarching targets and a policy framework to ensure coherence, coordination and scale.

- Governments should give high priority to gender equity in ICT strategies and broadband plans, establishing concrete, measurable targets matched by adequate budget and political will.
- Government should also invest in the collection of timely data on gender indicators to measure progress.

2. Teach digital skills from primary school onwards.

Our findings point strongly to the overwhelming difference that education makes to women's use of technology, even when controlling for other factors such as income and age. Currently, this benefit only really kicks in for the small minority of poor women who make it to secondary school or beyond: 92% of the female Internet users in our sample had at least some secondary education. However, by making sure that primary and secondary school curricula include ICT literacy basics, we can take advantage of near 100% primary enrolment rates to open up digital opportunities for everyone.

- Governments should work with all stakeholders to design and roll out digital literacy curricula for all ages that are designed to boost the confidence and interest of girls, and focus on empowerment and rights, not just technical abilities.
- Digital literacy training programmes should also be made widely available to older age groups (for example, through jobs centres, libraries, workplaces and community organisations), but these should be designed as supplements to, not substitutes for, a solid base of classroom learning.
- Finding effective, interactive ways to teach digital literacy in resource-constrained settings is a particular priority.
- Governments should invest in the enablers needed to take education into the digital age, such as more and better ICT training and support for teachers; fast, free broadband for schools; and replacing expensive proprietary textbooks and learning materials with Open Educational Resources.

3. Smash the affordability barrier.

In the countries in our study, a monthly prepaid data allocation of one GB (enough for just 13 minutes of Web use a day, excluding video) costs nearly 10% of average income. That's 10 times more than what the same data costs the average OECD citizen, relative to income, and is double what people in developing countries spend on healthcare. Making broadband cheaper is not only the best way to get more people connected, but also a prerequisite to enable them to go online and explore longer and more often, so they can fully unlock digital opportunities. For example, women who are able to go online daily are nearly three times more likely than infrequent users to report that the Internet has helped them to increase their income. Priorities, as outlined by the Alliance for Affordable Internet, include:

- Increasing competition and transparency in every layer of the connectivity market.
- Making better use of Universal Access and Service Funds to subsidise broadband connectivity in underserved areas, with concrete targets for reducing the gender gap in access and adoption – including, for example, through community access options targeting women and girls.
- Promoting flexible use of low-value spectrum bands for free or very low-cost connectivity (e.g. community Wi-Fi).
- Removing luxury taxes on ICT devices.

4. Practice woman-centred design.

Many poor women cite lack of relevant content or lack of time as a reason for not making more extensive use of the Internet. Only a minority, for example, feel the Internet is helping them enhance their livelihoods. Services like mobile money, e-government, agricultural market information, mobile learning and health are critical to make the Internet more useful to and more widely used by women. The impact of online services could be dramatically increased by defining the end user as a woman and not just a generic "consumer". Experience shows that when women are not consulted, products and services are often destined to fail. When government agencies and donors invest in such services, the number one target for success should be uptake by low-income women. This means:

- Prioritising investment in digitising the information and services that low- income women will find most valuable.
- Designing multi-channel content and services, incorporating the platforms, and languages, that women use most.
- Involving women directly in design and planning, and making sure that a proportion of Universal Service and Access Funds and other public funding for technology development (such as subsidies or incentives for tech entrepreneurs) is specifically set aside for projects led or managed by women.

5. Make women's civic and political engagement an explicit goal.

Women who are already active in community or political life are not only much more likely to be online, but also far more likely to use technology in transformative ways. Policymakers should work with women's groups to find ways that technology can help women to enhance their offline participation, voice and power. Examples might include:

- Identifying grassroots women leaders and activists to receive training and support in the use of ICTs for social change and entrepreneurship, and/or to become trainers themselves.
- Supporting women-led movements and organisations (these might include faith- based organisations, market women's associations, etc.) to make greater use of ICTs in their work.
- Designing comprehensive programmes that use both online and offline tools to increase gender equality by focusing on women's civic and political engagement.

6. Combat harassment of women online.

In 74% of countries included in the Web Index, law enforcement agencies and the courts are failing to take appropriate actions in situations where ICTs are used to commit acts of gender-based violence. The very high level of mobile phone and Internet-based harassment facing young women in most cities in our study is not stopping them going online, but it may inhibit how they use ICTs, and discourage them from expressing creativity, expanding their social capital or seeking political voice online. Steps critical to change this include:

- Governments must enact adequate legislative measures to protect the right to safety and bodily integrity of women and girls.These measures can be extended to ICT-mediated abuse without unnecessary intrusion on free speech and expression.
- Governments must ensure that police, lawyers and judges are trained to understand and deal with ICT-based harassment against women, and can make effective use of the legal instruments that exist.
- All stakeholders involved in digital literacy programmes in and beyond schools must ensure both boys and girls receive training in appropriate online behaviour, protecting privacy and safety and dealing with ICT-based abuse.
- Online service providers must make it easier for women to report abuse (including in local languages) and ensure they respond to such reports quickly and effectively, as highlighted in recent APC research.

7. It's not (just) the technology, stupid.

Neither communications ministries, which typically have lead responsibility for national ICT strategies, nor gender ministries, where these exist, can achieve the SDGs on Internet access and women's digital empowerment on their own. They are usually under-resourced and cannot marshall either the budgets or the political clout of their colleagues in larger departments. Additionally, our findings underline the lesson that empowering women does not happen in separate boxes labelled "offline" and "online", but requires progress across several fronts at once. Government agencies, civil society groups and private sector stakeholders will need to work together in all sectors to ensure that ICT initiatives are systematically integrated with wider efforts to expand women's choices and capabilities in the labor market, in the home, at school and in public life. Training policymakers across different sectors (such as health, education, small business, agriculture) to understand and harness the potential of ICTs to tackle poverty and gender inequality may be a good starting point.

For example:

- ICTs can enhance poor women's livelihoods, but women also need equal access to decent work, productive resources, childcare and financial services and credit.
- Social media can help women gain a bigger voice, but this needs to be accompanied by other measures to increase women's participation and representation in decision-making processes at all levels.
- The Internet can support women in making informed choices about their bodies and health, but without adequate access to safe, legal and affordable sexual and reproductive health services and action against practices such as early marriage, these choices cannot be implemented.

ANNEX

- Links to the methodology, survey questions, and data tables/sampling plan are available on our website

LIST OF TABLES AND GRAPHS

- Figure 1: Theoretical Framework developed by Gurumurthy and Chami, drawing on Kleine's (2008) Choice Framework and the Active Citizenship Framework of the Women-gov project (2014) — 11
- Table 1: Country-specific overall Internet use and women's use in particular — 13
- Table 2: Following links vs. seeking information — 28
- Table 3: Percentage of women who have never looked for information on sexual and reproductive health or legal rights — 30
- Table 4: Number of respondents who have experienced online harassment — 39
- Graph 1: Women's Internet use based on education level — 14
- Graph 2: Internet users by education level — 15
- Graph 3: Internet users based on age — 16
- Graph 4: % of Men and Women using the Internet based on household economic status — 16
- Graph 5: Women's internet access based on mobile broadband cost/GNI per capita % — 17
- Graph 6: Barriers to Internet Use among female non users — 22
- Graph 7: Barriers to using the Internet more often (among female Internet users) — 23
- Graph 8: Reasons for using social media (% of social media users) — 27
- Graph 9: When women's education levels increase, the probability of using the Internet to seek information increases — 29
- Graph 10: Percentage of Internet users who have shared their views on an important or controversial issue through social media/Internet more than once in last 6 months — 32
- Graph 11: Internet use and political activity — 33
- Graph 12: Use of the Internet for sharing information about social, economic and political issues — 34
- Graph 13: Women's civic engagement and political participation offline — 35
- Graph 14: % of Internet users for whom the Internet has allowed them to increase their incomes "somewhat" or "a great deal" — 37

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Acknowledgements

We are extremely grateful to the Swedish Development Cooperation Agency (Sida) for support to carry out this research.

This report was written by Anne Jellema and Ingrid Brudvig. The research was directed by Dr Hania Farhan and statistical analysis was led by Dr Siaka Lougue with support from Bado Aristide. Web Foundation team members including Dillon Mann, Kristen Robinson, Sonia Jorge, Dhanaraj Thakur, and Lauran Potter made valuable contributions.

Special thanks to the project advisory team including Anita Gurumurthy and Nandini Chami from IT for Change, for substantive input into the research design, conceptual framework, review and analysis of the findings and input into report. Special thanks also to Carly Nyst for advising on country policy analysis.

Data collection was carried out by Ipsos MORI led by Daniel Cameron, Sidra Butt-Mughal, Jennifer Keyes and Ipsos country offices. It was a great pleasure to work closely with leading civil society organisations to carry out this research. We extend great thanks to: Amalia Toledo from Fundación Karisma; Dorothy Okello, Irene Murungi, Sarah Atim, Moses Owiny from Women of Uganda Network (WOUGNET); Racheal Nakitare and Mary Masinde from the International Association of Women in Radio and Television (IAWRT); Temitope Ogundipe from Paradigm Initiative Nigeria; Dr Alsácia Atanásio, Sergio Cossa, Antonio Niquisse, Nilza Josefa, Sheila Sitoe, Nelson Timana Venancio Massingue from the Science Innovation Information and Communication Technology Research Institute (SIITRI); Excel Asama and team at I-Vission International; Julie Owono from Internet Sans Frontieres; Amel Fahmy and Enas Hamdy from Tadwein Gender Research Centre; Lisa Garcia and Christina Lopez from Foundation for Media Alternatives; Anita Gurumurthy and Nandini Chami from IT for Change; Widuri from ICT Watch Indonesia.

Thank you to the following individuals who contributed their expertise: Claire Sibthorpe, Shireen Santosham from GSMA Connected Women; Alison Gillwald, Mariama Deen-Swarray, Chenai Chair from Research ICT Africa; Maggie Mapondera from Just Associates; Jennifer Radloff and Emilar Vushe Gandhi from the Association for Progressive Communications; Jennifer Breslin from UN Women.

Translation of the executive summary was provided through Global Voices Translation Services. Please find the translated versions on our website.

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Established by the inventor of the Web, Sir Tim Berners-Lee, the World Wide Web Foundation seeks to establish the open Web as a global public good and a basic right, creating a world where everyone, everywhere can use the Web to communicate, collaborate and innovate freely. The World Wide Web Foundation operates at the confluence of technology and human rights, targeting three key areas: Access, Voice and Participation.

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