

world development report

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BACKGROUND PAPER

## Digital Dividends

# World Development Report 2016: Digital Dividends Walking the walk

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Background paper for the World Development Report 2016

# World Development Report 2016—Digital Dividends

## Walking the walk

**Desirée van Welsum**

September 2015

*I am very grateful to everyone who worked on making this exercise a success, in particular Pratheep Ponraj, Manas Ranjan Parida and the technical team, as well as Vamsee Krishna Kanchi, Elizabeth Howton and the communications team. Errors are my own.*

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## Introduction

The World Bank's 2016 *World Development Report* explores how digital technologies are impacting growth, jobs and public services.<sup>1</sup> The internet and other digital technologies profoundly affect the lives of billions of people. The Report examines how they can be a force for development, especially for the poor in developing countries. The Report explores the impact of digital technologies on economic growth, on social and economic opportunity, and on the efficiency of public service delivery. It analyzes the factors that have enabled or hindered businesses, people, and governments to benefit from these technologies. The Report also identifies the policy reforms in the information and communication technology (ICT) sector, complementary reforms, and reforms in the development community required to maximize the impact of digital technologies on growth and development.

In order for the report itself to also experiment with these technologies, and to reach out to and engage the future potential audience and readership, a number of questions/polls were posted on the internet for people to vote in, with the possibility to leave comments and provide feedback.<sup>2</sup>

**Disclaimer:** This outreach exercise was not intended as a survey, it does not cover a representative or unbiased sample, and is not used for statistical analysis. Instead the aim was to reach out to future readership on a number of topics covered in the report. The limitations of such an exercise from a statistical or analytical point of view are fully recognized. Nonetheless, the internet is a great communications and engagement tool and was used in that spirit in this exercise.

In total, 11 polls were posted, one every week, between 23 April 2015 and 2 July 2015. The polls were promoted through social media channels, and when possible they were also posted on the World Bank Home Page.<sup>3</sup> The polls have been left open, but the data shown in this paper were collected on the 31<sup>st</sup> of July and 4<sup>th</sup> of August and the 10<sup>th</sup> of September 2015. At the time of writing, new votes continue to be added. The polls cover issues such as the impact of the internet on day-to-day life, jobs and employment opportunities, the ability to influence public sector decisions, privacy and security sentiments, online shopping, and the digital divide. In order to reach the widest possible audience worldwide, it was decided after the first two weeks of the exercise to also post the polls translated into Spanish, French, Arabic and Chinese. By 10 September 2015, all the polls combined had collected 17,342 votes (see Appendix 1 for a summary table of the votes).

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<sup>1</sup> <http://www.worldbank.org/en/publication/wdr2016>.

<sup>2</sup> Using the polling site [www.poll daddy.com](http://www.poll daddy.com).

<sup>3</sup> [www.worldbank.org](http://www.worldbank.org).

## Summary of the results

By 10 September 2015:

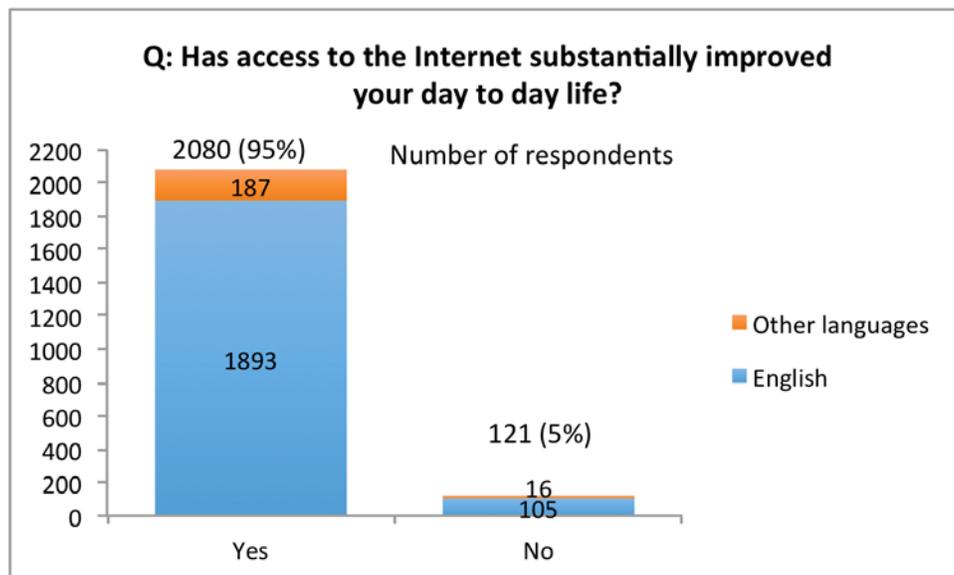
- 95% of voters agreed that access to the internet had fundamentally improved their day-to-day lives
- 78% of voters agreed with Bill Gates in that the internet only goes so far in solving economic development related problems, while 22% agreed with Erik Schmidt that providing connectivity will take care of most problems
- 75% of voters thought governments should subsidize internet access for the poor
- 82% of voters thought the internet will create new and better job opportunities for them in the next 10 years
- 65% of voters agreed the internet had increased their ability to influence decision making by local and national governments
- 84% of voters were concerned by commercial use of their private information
- 80% of voters were concerned by government use of their private information
- 11% thought that digital technologies will eliminate their current job over the next 10 years
- 65% of voters agreed the internet has made their local or national government more responsive to citizens
- 67% of voters agreed they could not do their job without the internet, 26% voted it would be possible but difficult, and 7% can do their job without the internet
- 81% of voters have bought goods or services online in the past year
- 43% of voters think the digital divide will disappear over time

## The polls

1. **Has access to the Internet substantially improved your day-to-day life?** (posted on 23 April 2015; by 10 September 2015 there were 2,201 votes)

The two possible answers were:

- Yes: I am completely connected “always-on”, and have organized both my personal and professional life using the Internet.
- No: My life would be exactly the same without the Internet. The Internet is mainly used for playing games, porn, scams and cybercrime.

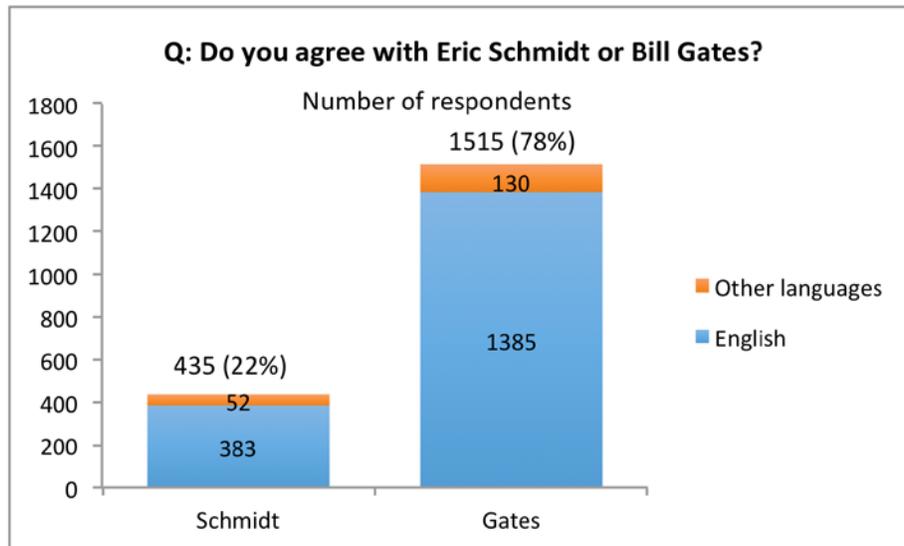


2. **Do you agree with Eric Schmidt or Bill Gates?** (posted on 30 April 2015; by 10 September 2015 there were 1,950 votes)

The two statements were as follows:

- Eric Schmidt: I say this with almost complete seriousness. Almost all the problems we debated can be solved literally by more broadband connectivity in these countries. And the reason is, the broadband is how you address the governance issues, the information issues, the education issues, the personal security issues, the human right issues, and the women empowerment issues. ... Just wire them up and the citizens will take care of a lot of the problems. (Eric Schmidt, CEO of Google, while speaking at the session on The Future of the Digital Economy, World Economic Forum Annual Meeting 2015)

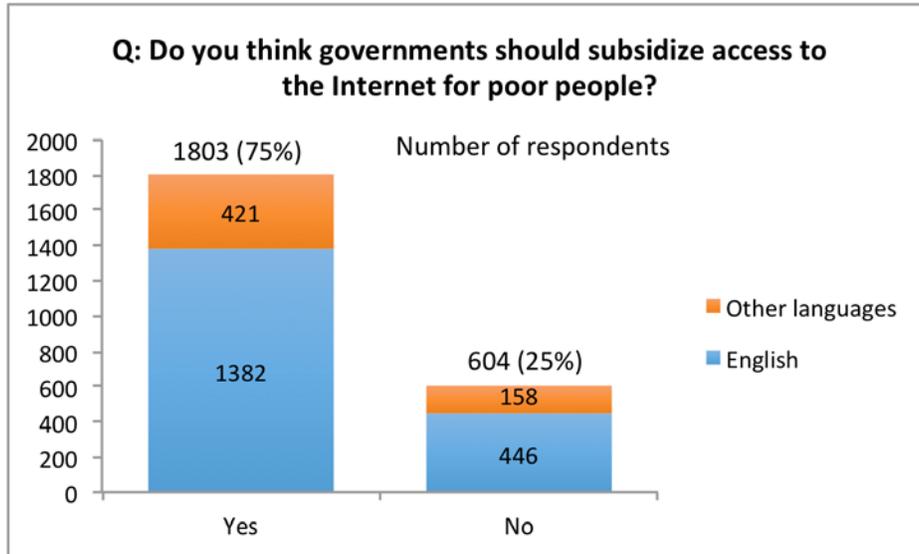
- Bill Gates: When you're dying of malaria, I suppose you'll look up and see that (Google's) balloon, and I'm not sure how it'll help you. When a kid gets diarrhea, no, there's no website that relieves that. Certainly I'm a huge believer in the digital revolution. And connecting up primary-health-care centers, connecting up schools, those are good things. But no, those are not (enough), for the really low-income countries, unless you directly say we're going to do something about malaria. (Bill Gates, Founder of Microsoft, from an interview about the Gates Foundation's Health and Education Campaigns, Bloomberg Business, August 2013; Text in brackets added)



3. [Do you think governments should subsidize access to the Internet for poor people?](#) (posted 7 May 2015; by 10 September 2015 there were 2,407 votes)

Answers:

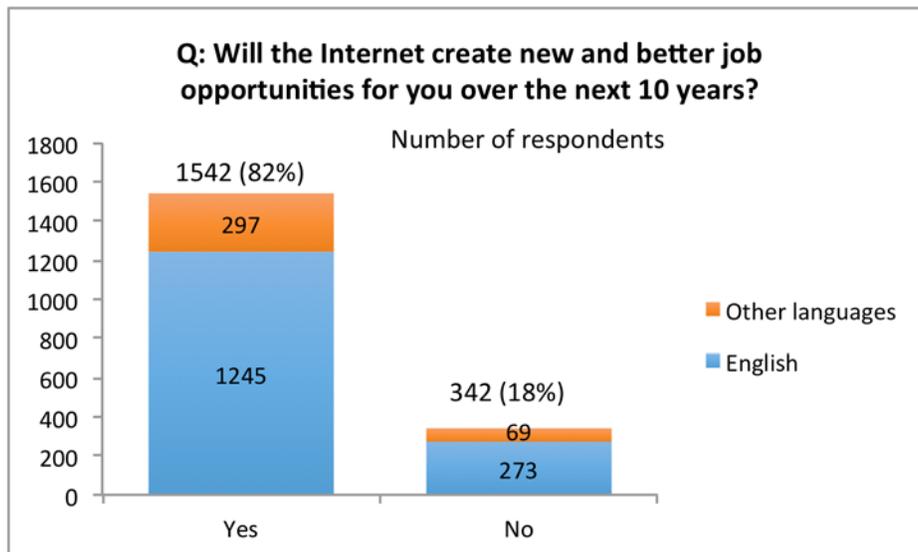
- Yes: Access to the Internet should be a basic human right. The Internet can improve people's lives, so it is important for the government to make it affordable for people who could otherwise not access and use it.
- No: Public money will be better spent on improving sanitation, roads, clean water and safe and sustainable food supplies. The Internet is a luxury.



4. Will the Internet create new and better job opportunities for you over the next 10 years? (posted 14 May 2015; by 10 September 2015 there were 1,884 votes)

Answers:

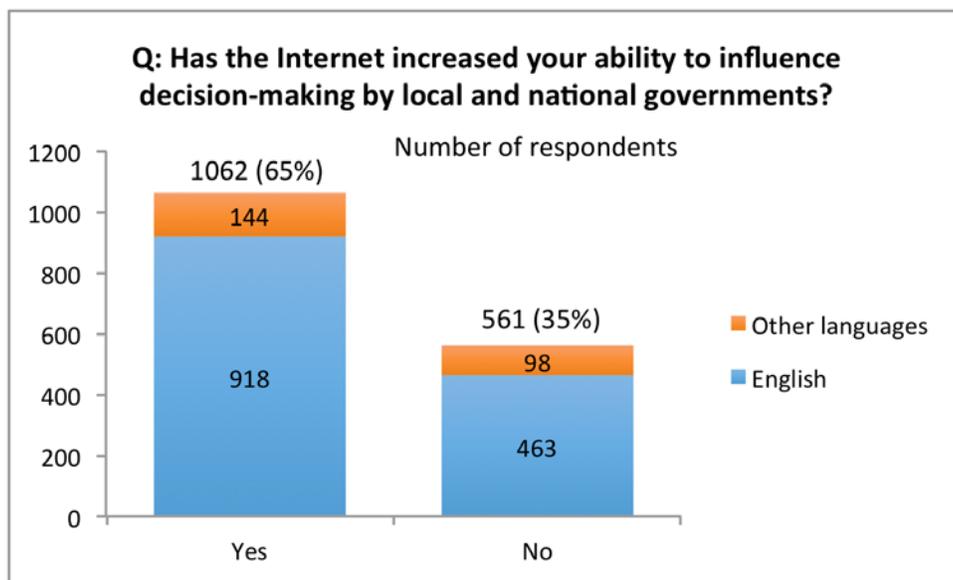
- Yes: The Internet expands economic opportunities, creates jobs directly and indirectly, and connects people to jobs.
- No: The new jobs the Internet creates may require completely different skill sets than those that I currently have and would require extensive retraining.



5. **Has the Internet increased your ability to influence decision-making by local and national governments?** (posted 21 May 2015; by 10 September 2015 there were 1,623 votes)

Answers:

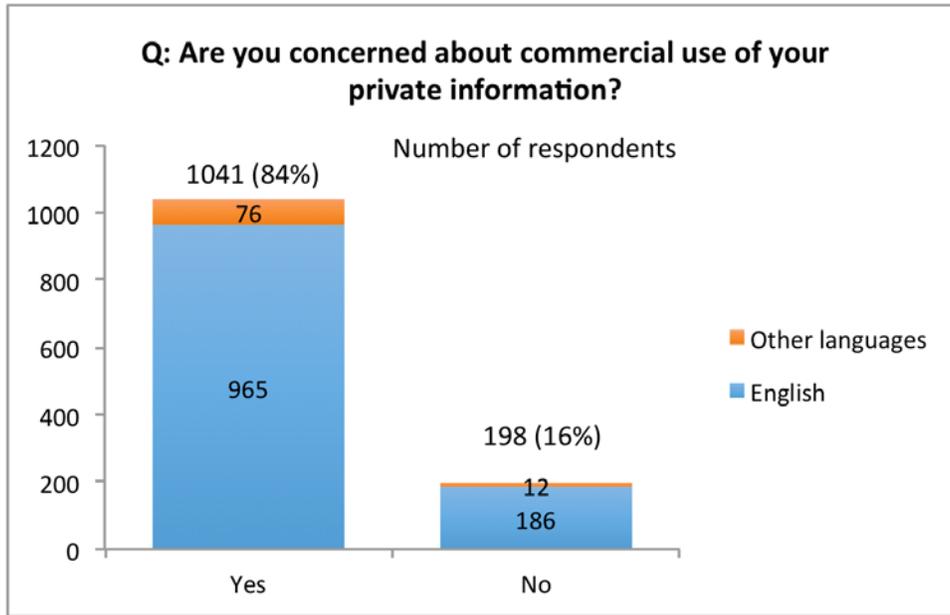
- Yes: The Internet is transformative, resulting in a fundamentally different form of participatory government, and a new era of citizen collective action, with self-organizing virtual communities of citizens to hold government to account.
- No: While social media helps citizens organize protests it also strengthens surveillance by governments and the spread of misinformation.



6. a) **Are you concerned about commercial use of your private information?** (posted 28 May 2015 – at the same time as poll number 6b; by 10 September 2015 there were 1,239 votes)

Answers:

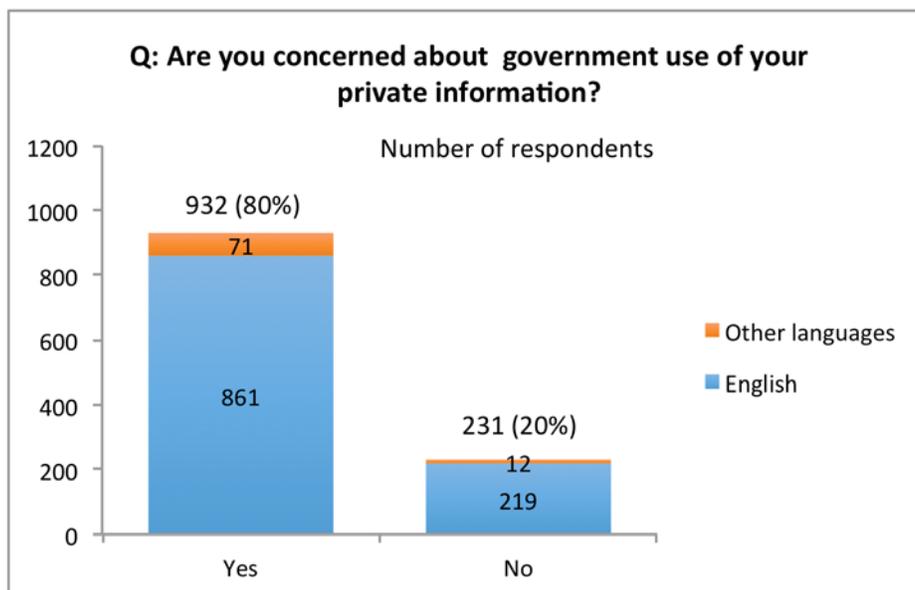
- Yes
- No



6. b) Are you concerned about government use of your private information? (posted 28 May 2015; by 10 September 2015 there were 1,163 votes)

Answers:

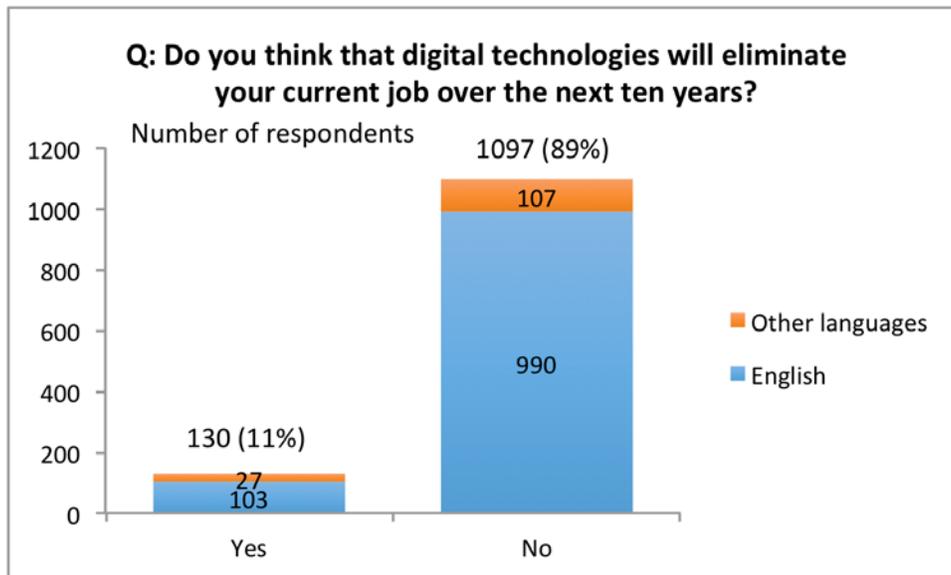
- Yes
- No



7. Do you think that digital technologies will eliminate your current job over the next ten years? (posted 4 June 2015; by 10 September 2015 there were 1,227 votes)

Answers:

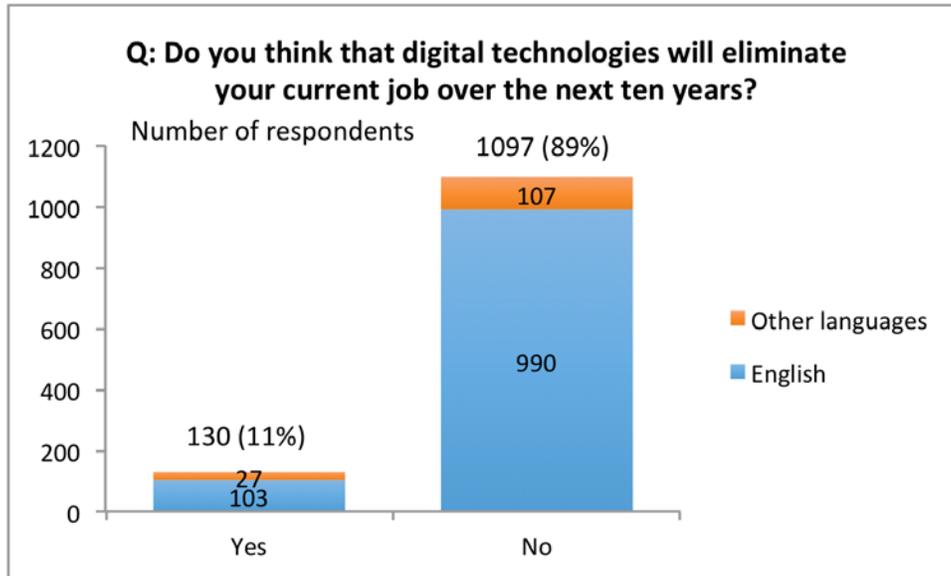
- Yes: New technologies, including the Internet, will replace the task I do at work making me obsolete for my job.
- No: Some jobs will always require people and face-to-face contact, even if some tasks may be impacted by the Internet.



8. Has the Internet made your local or national government more responsive to citizens? (posted 11 June 2015; by 10 September 2015 there were 916 votes)

Answers:

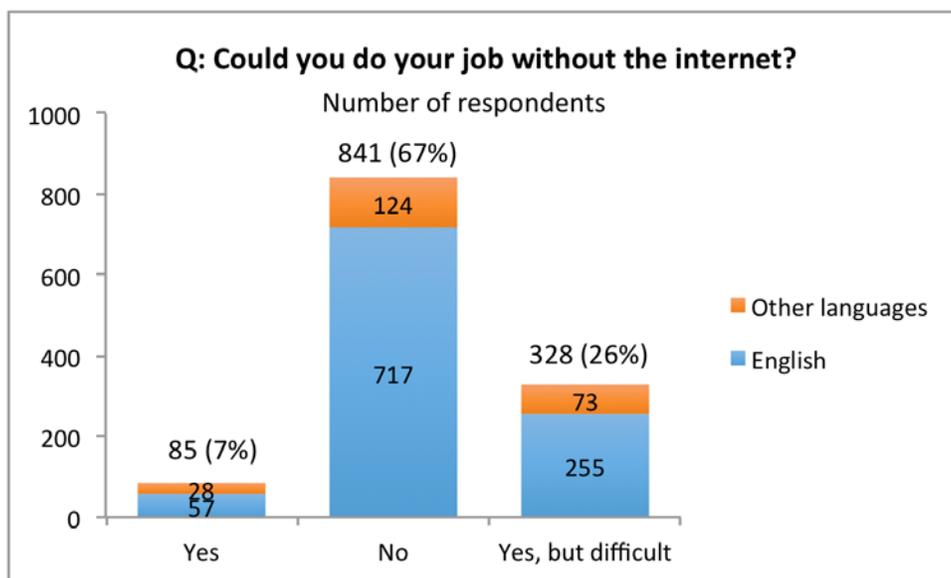
- Yes: The greater transparency and flow of information enabled by digital technologies will improve democratic participation, increase public sector accountability, and enhance service delivery.
- No: Governments remain entrenched in their old ways and digital technologies cannot address more fundamental problems of unaccountable and inflexible bureaucracies.



9. [Could you do your job without the internet?](#) (posted 18 June 2015; by 10 September 2015 there were 1,254 votes)

Answers:

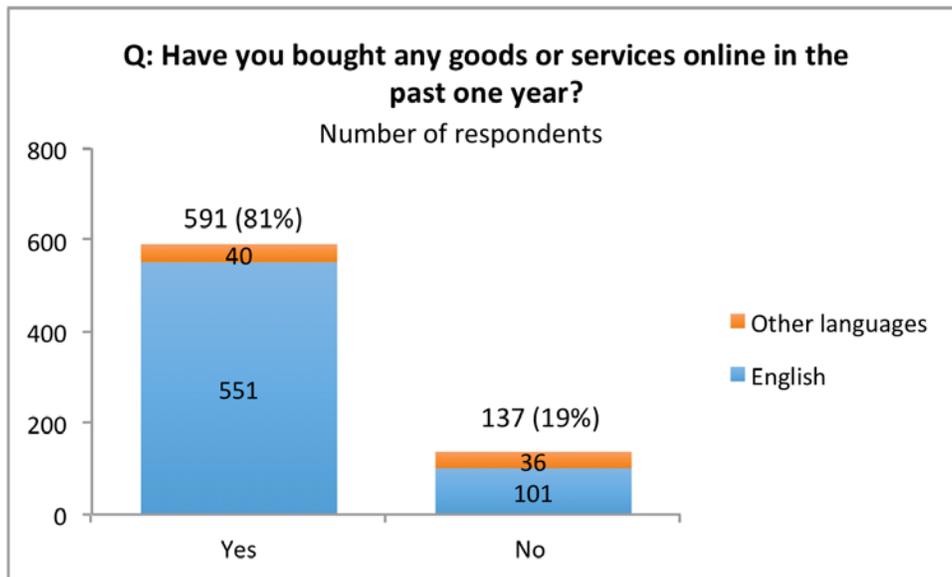
- Yes, I don't need the internet to do my job.
- No, I need the internet for most tasks in my job.
- I could do it without the internet but it would be difficult and take longer.



10. Have you bought any goods or services online in the past one year?  
(posted 25 June 2015; by 10 September 2015 there were 728 votes)

Answers:

- Yes, it is fast and convenient.
- No, I don't trust the internet for online transactions.
- No, I don't have access to a credit card or other means of online payment.
- No, I prefer to go to a brick-and-mortar store.
- No, since most goods and services I purchase are not available online or are not delivered to where I live.

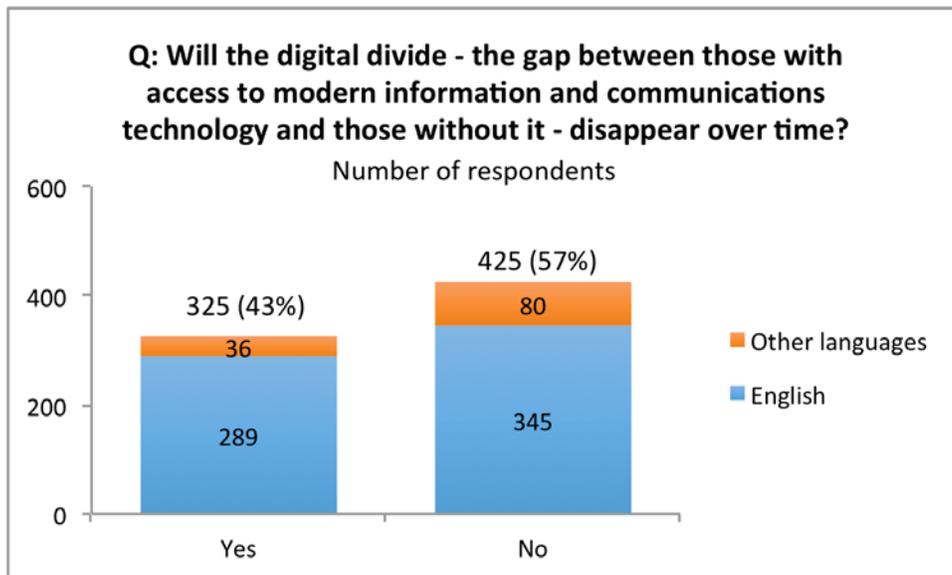


Note: The 'no' answers have been combined into a single response in this graph for the purpose of readability. See Appendix 2 for the detailed breakdown.

11. Will the digital divide-the gap between those with access to modern information and communications technology and those without it-disappear over time? (posted 2 July 2015; by 10 September 2015 there were 750 votes)

Answers:

- Yes: The dramatic reduction in cost of digital equipment and services and radical new technologies to expand digital access to all parts of the world economy would imply a shrinking digital divide overtime. Just like the universality of the feature phones, the poor will be able to afford smart phones and access the internet like everyone else.
- No: While existing digital divide will be overcome, new divides will emerge. By the time most poor households have smart phones, the rich would have moved to wearables, autonomous vehicles, 3D printing, and so on. And even if we can reduce digital divide across countries, access to the internet between men and women, rural and urban areas and rich and poor households within each country will persist.



## Appendix 1: Summary table

Poll #	Status	Date posted	Question	Votes	Chinese*	Arabic*	French*	Spanish*	English	Total	
1	Open	23 April 2015	Has access to the Internet substantially improved your day to day life?	Number Y: N:	6 4 2	13 13 0	116 108 8	68 62 6	1998 1893 105	2201 2080 121	
2	Open	30 April 2015	Do you agree with Eric Schmidt or Bill Gates?	Number Y: N:	6 2 4	12 3 9	94 22 72	70 25 45	1768 383 1385	1950 435 1515	Schmidt Gates
3	Open	7 May 2015	Do you think governments should subsidize access to the Internet for poor people?	Number Y: N:	23 15 8	85 67 18	238 166 72	233 173 60	1828 1382 446	2407 1803 604	
4	Open	14 May 2015	Will the Internet create new and better job opportunities for you over the next 10 years?	Number Y: N:	14 11 3	37 23 14	112 90 22	203 173 30	1518 1245 273	1884 1542 342	
5	Open	21 May 2015	Has the Internet increased your ability to influence decision-making by local and national governments?	Number Y: N:	13 8 5	12 7 5	98 60 38	119 69 50	1381 918 463	1623 1062 561	
6a	Open	28 May 2015	Are you concerned about commercial use of your private information?	Number Y: N:	6 6 0	7 5 2	50 43 7	25 22 3	1151 965 186	1239 1041 198	
6b	Open	28 May 2015	Are you concerned about government use of your private information?	Number Y: N:	5 4 1	7 6 1	48 45 3	23 16 7	1080 861 219	1163 932 231	
7	Open	4 June 2015	Do you think that digital technologies will eliminate your current job over the next ten years?	Countries Number Y: N:	5 4 1	7 5 2	48 40 4	23 85 20	1080 1093 103	1163 1227 130	
8	Open	11 June 2015	Has the Internet made your local or national government more responsive to citizens?	Number Y: N:	7 2 5	17 11 6	65 30 35	61 25 36	766 529 237	916 597 319	
9	Open	18 June 2015	Could you do your job without the internet?	Number Y: N: Y2: 3	3 0 1 2 3	36 6 21 9 36	86 9 50 27 86	100 13 52 35 100	1029 57 717 255 1029	1254 85 841 328 1254	yes no yes, but would be difficult
10	Open	25 June 2015	Have you bought any goods or services online in the past one year?	Number Y: N: N2: N3: N4:	7 7 0 0 0 0	1 0 1 0 0 0	61 26 11 11 9 4	7 7 0 0 0 0	652 551 32 29 20 20	728 591 43 41 29 24	trust payment brick-and-mortar availability/delivery
11	Open	2 July 2015	Will the digital divide-the gap between those with access to modern information and communications technology and those without it-disappear over time?	Number Y: N:	9 5 4	7 3 4	23 8 15	77 20 57	634 289 345	750 325 425	
<p>* the first two polls were only available in English for the first 2 weeks; it is possible to vote in more than one language so number of votes and countries are indicative; one 'country' is indetermined/VPN            Note: some polls were not posted in all languages, or not posted all the time; some were more promoted than others, at different times.            Note: there is not a one-on-one link between countries and language polls (e.g. you can vote in the English vote from Spain; you can vote in the French vote from China; etc.).</p>										total: total English	17342 14898
										total Non-English	2444

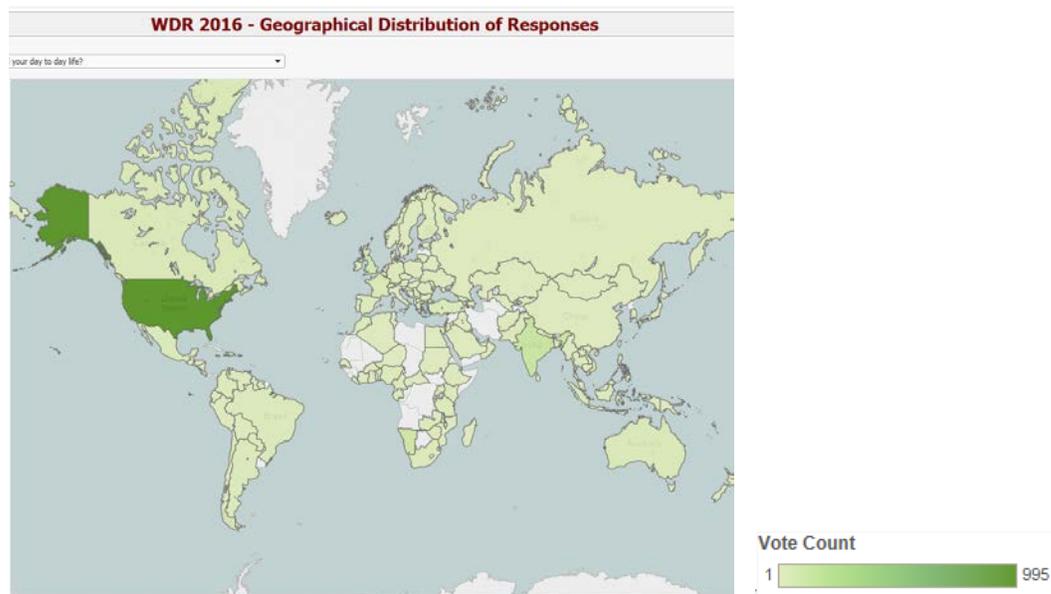
## Appendix 2: The polls in more details

### 1. Has access to the Internet substantially improved your day-to-day life? (posted on 23 April 2015; by 4 August 2015 there were 2,169 votes)

The two possible answers were:

- Yes: I am completely connected “always-on”, and have organized both my personal and professional life using the Internet.
- No: My life would be exactly the same without the Internet. The Internet is mainly used for playing games, porn, scams and cybercrime.

By 4 August 2015 1,968 people had voted in this poll in the English language version. The votes in the English language poll came from 136 countries, with just over 50% of the votes from in the US, followed by India, VPN connections (which can be anywhere), the United Kingdom, France and Canada.



Map 1. Note: The world map of votes in the English poll is from 31 July 2015.

Some 94.8% of voters in the English language poll voted that access to the internet had significantly improved their day-to-day lives, and 5.2% voting it had not.

Many people also left comments. One poignant contribution from ‘Joe’ reminds us just how big an impact the internet can have on people’s lives as he writes: ‘*I am chronically ill. The internet is my portal to a world in which I can no longer travel, work, or generally participate in public life. Except online.*’ For some it is perceived as a luxury or use it just for leisure, while for others it is an indispensable tool to live and make a living, and to organize their professional and private lives. As ‘Carla’ contributes: ‘*Internet is my other part/body.*’

Many comments focused on being able to access knowledge and information on the internet (from weather and traffic information to finding and applying for jobs and online shopping), pursue more career development training and education (formally or autodidact), use social media to communicate with friends and family, including far away and in times of trouble, join communities people may otherwise never have joined or even known about, and contribute to causes and campaigns. *'Donatien'* illustrates: *'In my country Rwanda, ICT has been given priority in the development process of the country. It has been one of the pillars of the Vision 2020 of Rwanda. Institutions and individuals are connected to Internet to follow news, access publications on various fields of research, political events, science, etc. Even the villager old women use internet to get in touch with her son/daughter overseas who sends money through Western Union. Without internet, this may be almost impossible without money transfer systems through internet. Simply stating, internet is an invaluable tool for doing business.'* Many other contributors also highlighted the importance of the internet for their business.

Given the enthusiastic response to the first poll, and in order to reach the widest possible audience, it was decided two weeks into the exercise to also start posting the poll in other languages, notably Spanish, French, Arabic and Chinese. As these other language polls were posted two weeks later they missed out on any social media promotion, but still collected a number of votes: by 4 August 2015 there were 67 votes in the Spanish poll, 116 in the French poll, 13 in the Arabic poll and 5 in the Chinese poll. The Spanish and French language polls yielded fairly similar results: 91% yes and 9% no in the Spanish language vote, 93.1% and 6.9% in the French language poll. In the poll in Arabic, 100% voted yes, and the split was 60% yes and 40% no in the Chinese language poll, but of course these latter two polls had significantly less votes. The comments very much echoed those contributed in English.

2. [Do you agree with Eric Schmidt or Bill Gates?](#) (posted on 30 April 2015; by 4 August 2015 there were 1,919 votes)

The two statements were as follows:

- Eric Schmidt: I say this with almost complete seriousness. Almost all the problems we debated can be solved literally by more broadband connectivity in these countries. And the reason is, the broadband is how you address the governance issues, the information issues, the education issues, the personal security issues, the human right issues, and the women empowerment issues. ... Just wire them up and the citizens will take care of a lot of the problems. (Eric Schmidt, CEO of Google, while speaking at the session on The Future of the Digital Economy, World Economic Forum Annual Meeting 2015)
- Bill Gates: When you're dying of malaria, I suppose you'll look up and see that (Google's) balloon, and I'm not sure how it'll help you. When a kid gets diarrhea, no, there's no website that relieves that. Certainly I'm a huge believer in the digital revolution. And connecting up primary-health-care centers, connecting up schools,

those are good things. But no, those are not (enough), for the really low-income countries, unless you directly say we're going to do something about malaria. (Bill Gates, Founder of Microsoft, from an interview about the Gates Foundation's Health and Education Campaigns, Bloomberg Business, August 2013; Text in brackets added).

By 4 August 2015, 1739 people had voted in the English language poll from 133 countries (53.2% of the votes were in the USA, followed by India, VPN votes, the United Kingdom, France and the Netherlands). There were also 69 votes in the Spanish poll, 94 in the French poll, 12 in the Arabic poll and 5 in the Chinese poll.

In the English language poll, 21.8% of voters agreed with Erik Schmidt's statement and 78.2% with Bill Gates's statement. The comments indicated some people found it difficult to choose as both statements are quite extreme, and both contain elements most people could agree with: with Erik Schmidt's statement you have the crucial connectivity but you obviously need to add complementary factors in order to benefit from it, while with Bill Gates' statement you get the basics, but could do more with connectivity. Others argued that the two statements should be seen as complementary rather than in conflict, and that while the first focuses on improving lives, the second is more about survival, though even there the internet can help. As 'Tony' explains: *'I voted for Schmidt, but you need Gates too. Unless citizens get the right education, incentives and access to technology and to data the internet in itself won't solve their problems. But give them the whole package and the potential is enormous.'* And as 'Shirley' highlights: *'Free or highly subsidized connectivity in a long run can help to solve many governance, education, social and health issues. When we are looking at the very poor, or fragile countries, this is a matter of life, not a matter of quality of life.'*

The divide among voters was a little different in the Spanish poll where 36.2% of voters went with Eric Schmidt's statement, and 63.8% with Bill Gates's statement. The other language polls were closer to the results in the English poll: in the French poll 23.4% chose Eric Schmidt, 76.6% Bill Gates; in the Arabic poll 25% went with Eric Schmidt and 75% with Bill Gates, and in the Chinese poll 20% voted for Eric Schmidt and 80% for Bill Gates (but there were far fewer votes in the latter two polls). The comments contributed highlighted the role of information flows enabled by the internet, including for preventing and treating diseases and improving educational outcomes, with all the positive outcomes that ensue.

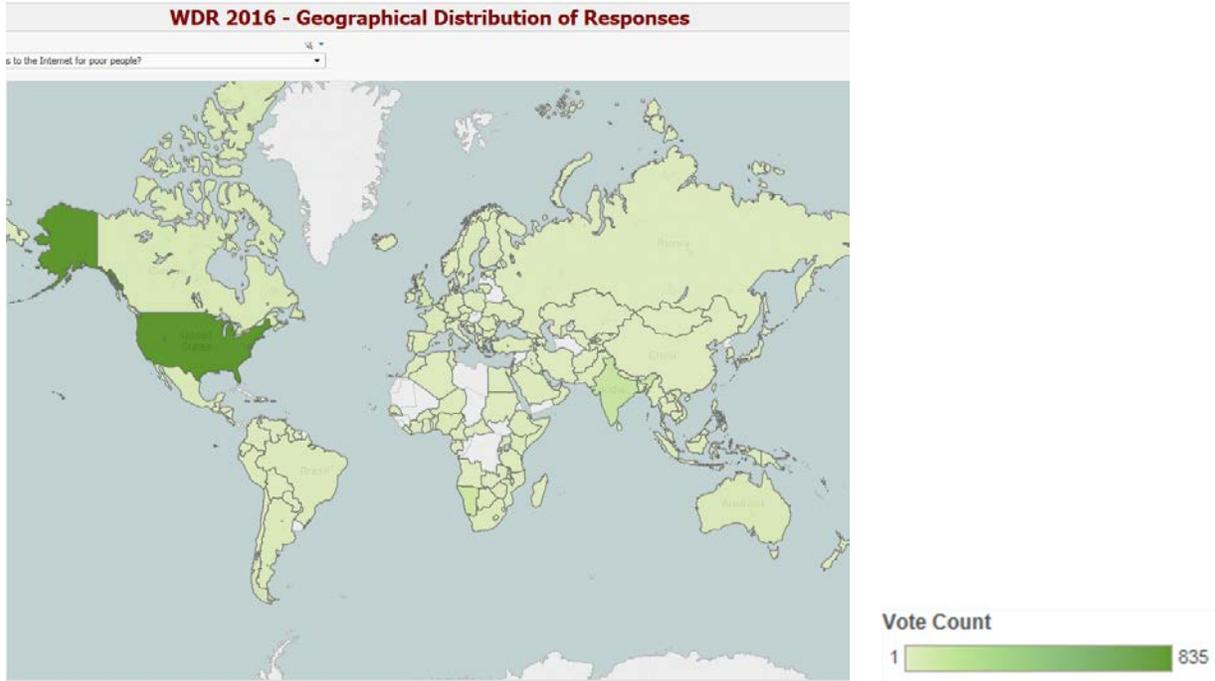
### 3. [Do you think governments should subsidize access to the Internet for poor people?](#) (posted 7 May 2015; by 4 August 2015 there were 2,374 votes)

Answers:

- Yes: Access to the Internet should be a basic human right. The Internet can improve people's lives, so it is important for the government to make it affordable for people who could otherwise not access and use it.

- No: Public money will be better spent on improving sanitation, roads, clean water and safe and sustainable food supplies. The Internet is a luxury.

By 4 August 2015, 1,797 people had voted in the English language poll, from 139 countries (46.4% of the votes in the USA, followed by India, VPN (from any location), United Kingdom, Canada, Australia and France). In addition, by that date there were 232 votes in the Spanish poll, 238 in the French poll, 85 in the Arabic poll and 22 in the Chinese poll.



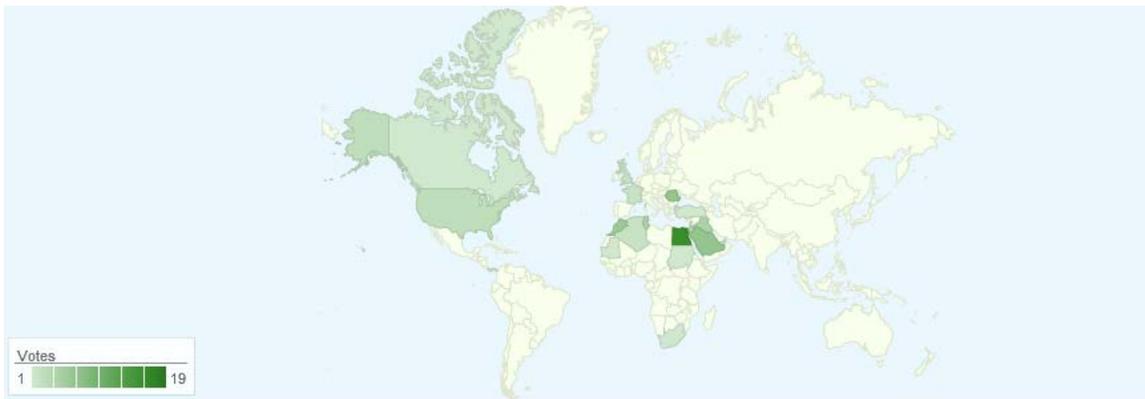
Map 2. Note: The world map of votes in the English poll is from 31 July 2015.



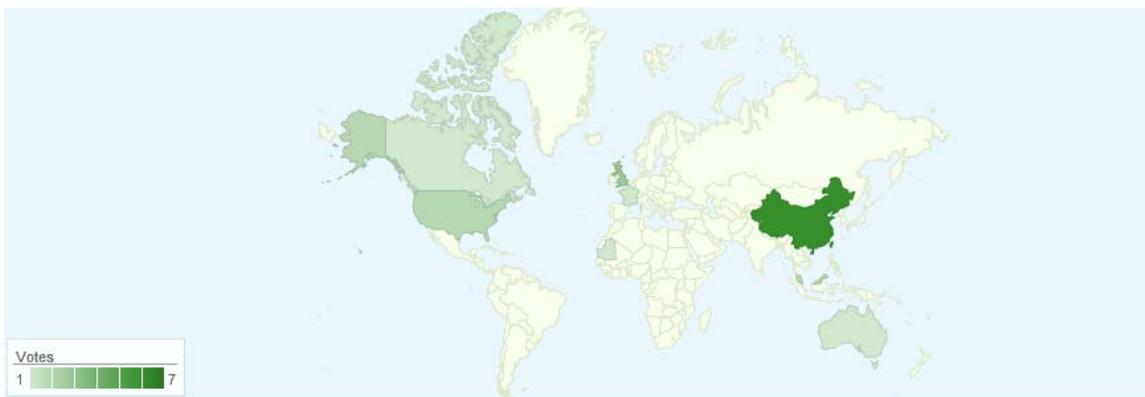
Map 3. A map of voting locations in the Spanish poll



*Map 4. A map of voting locations in the French poll*



*Map 5. A map of voting locations in the Arabic poll*



*Map 6. A map of voting locations in the Chinese poll*

Voters appeared to be strongly in favor of subsidizing the internet for the poor, with 75.7% voting yes in the English language poll, 74.6% in the Spanish poll, 69.8% in the French poll, 78.8% in the Arabic poll, and 63.6% in the Chinese poll.

The comments from voters show some disagreement on whether the internet should be seen as a basic right, though there seems to be agreement that people who are economically/geographically/socially disadvantaged risk falling behind even further without access to the internet, justifying government funding, in particular for rolling out the infrastructure, and then concentrating efforts on making it affordable. The internet, like education, can be seen as a tool to help people thrive independently, rather than just survive. “Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.” As Fenohasina argues: ‘If you think of the provision of internet as the provision of public goods which are non-rivalrous goods and have positive economic values, you are not really subsidizing it to the poor but providing some basic needs. Subsidy sounds to have a negative connotation given the inefficiencies in governance that it can entail and its costs but it is more of the provision of public goods that are necessary to the society.’ Simply put by ‘Denakpo’ (translated from French)<sup>4</sup>: *‘Today, a people without information is a dead people. Subsidizing the internet for the poor is would be a welcome measure that will help lifting people out of poverty’.*

#### 4. Will the Internet create new and better job opportunities for you over the next 10 years? (posted 14 May 2015; by 4 August 2015 there were 1,850 votes)

Answers:

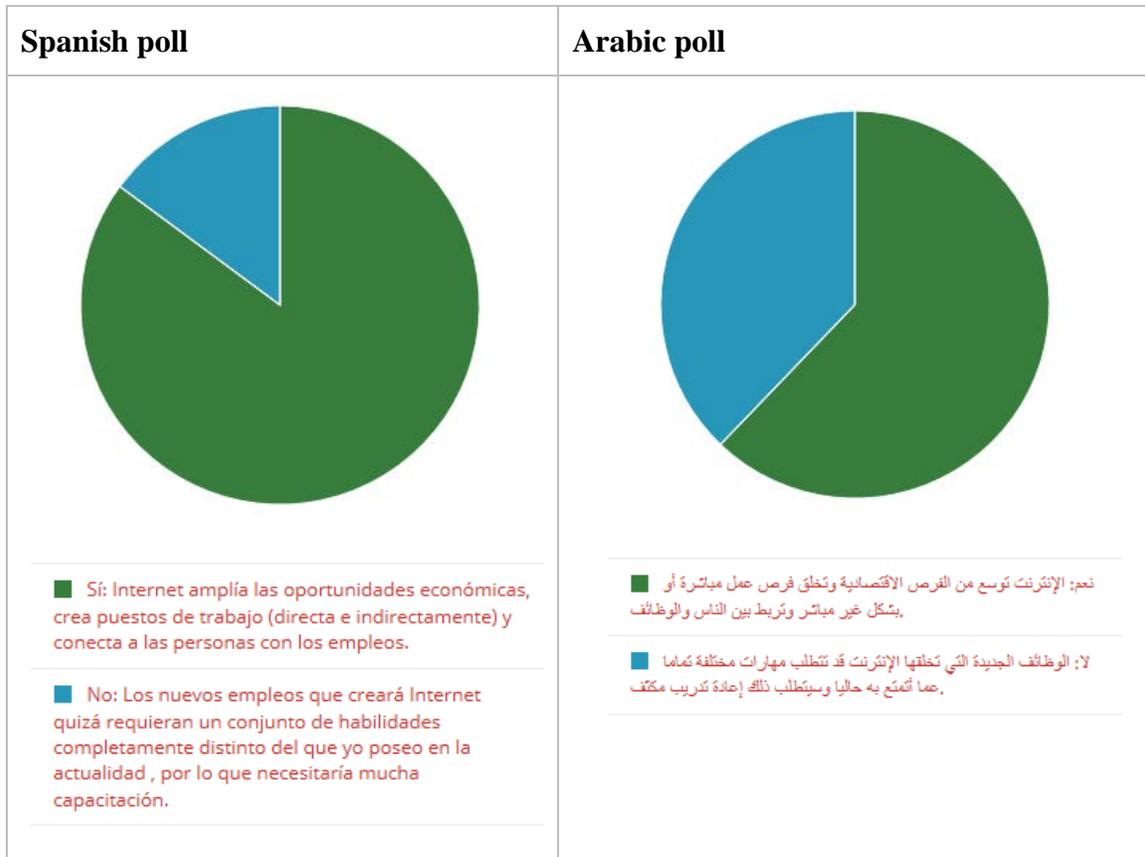
- Yes: The Internet expands economic opportunities, creates jobs directly and indirectly, and connects people to jobs.
- No: The new jobs the Internet creates may require completely different skill sets than those that I currently have and would require extensive retraining.

By 4 August 2015, there were 1,486 votes in the English poll (from 134 countries), 202 votes in the Spanish poll, 112 in the French poll, 37 in the Arabic poll and 13 in the Chinese poll.

Voters appear to be optimistic about how the internet impacts job opportunities (and improves working life by being able to work from home, for example), with 82.2% yes votes in the English language poll, 85.2% yes in the Spanish poll, 80.4% in the French poll, 62.2% in the Arabic poll, and 76.9% in the Chinese poll (the latter two polls with fewer votes).

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<sup>4</sup> ‘Aujourd’hui, un peuple sans information est un peuple mort. Subventionner l’accès des pauvres à Internet serait la bienvenue et son effet serait positif sur la sortie de la pauvreté.’



The comments that were contributed relate to issues such as increased opportunities to expand skills online through online courses, increased information about companies and job opportunities, the ability to apply online, increased efficiency at the work place, and the ability to work remotely (and avoid sitting in traffic jams). ‘Habimana’ says: ‘Yes, internet expands economic opportunities like, jobs, scholarships, etc. It is very useful in daily life.’ And ‘Frank’ contributes: ‘The Internet definitely changed opportunities to inform about companies, some I never heard of, especially over the frontiers, in other countries. It gives me the chance to work out of big cities from a home office’.

5. [Has the Internet increased your ability to influence decision-making by local and national governments?](#) (posted 21 May 2015; by 4 August 2015 there were 1,591 votes)

Answers:

- Yes: The Internet is transformative, resulting in a fundamentally different form of participatory government, and a new era of citizen collective action, with self-organizing virtual communities of citizens to hold government to account.
- No: While social media helps citizens organize protests it also strengthens surveillance by governments and the spread of misinformation.

By 4 August 2015 there were 1,351 votes in English poll, 118 votes in the Spanish poll, 98 in the French poll, 12 in the Arabic poll and 12 in the Chinese poll. Across all polls, the results were in favor of a positive effect of the internet on the ability to influence public decision making, but not very strong: in the English poll 66.6% voted yes, 58.5% yes in the Spanish poll, 61.2% in the French poll, 58.3% in both the Arabic and Chinese polls.

The comments that were contributed highlight cases in different countries where the internet has increased the ability to influence government decisions (e.g. in Brazil, Kenya, Nepal, Nigeria, Rwanda and Uganda), but some also point out it may give more power to governments and businesses to manipulate people and opinions, e.g. through fake news reports and advertising.

*'Giuliana' contributes: 'In Brazil, internet has been indispensable to guarantee transparency and access to information for all citizens. Either local or federal government are obligated to the foundation and management of transparency portals at its internet sites. This is the rule of law and, despite the very incipient experience, this is a conquest that is being constructed with the active participation of the organized society. In Maringá, State of Paraná, there is an association which works to control public expenses, public tenders and contracts. Working with information divulged at internet and data provided by the government, the Observatório Social de Maringá has contributed for the saving of more than 50 million reais, in ten years. And has obtained relevant cultural changes which promote social cohesion and citizen conscientiousness.'*

*'Sunil' shares: 'Yes Last Presidential Election was greatly influenced by the internet. A corrupt but progressive government was defeated. This was replaced by a government that practices good governance. However, all development activities were stopped. This government is good at governance but bankrupt in a vision for development. Internet and social media used by city dwellers had a lot to do with this. The rural population and the low-income earners are having difficulties in their income earning activities. Most have ceased, example the quantify of sand mining in Sri Lanka has decreased by over 50%.'*

*'Anna' provides an example for Rwanda: 'In Rwanda, the Ombudsman's office responds to the citizen concerns. The same the Kigali city Council has the webpage where you can left the messages on what is not working. Personally I utilized in the past both services and they give in the first case assistance and advice on how to try to resolve my problem, and with Kigali city Council the waste collection in my district improved.'*

*And 'Joseph' contributes: 'In northern Uganda internet has impacted on policy change. Through BOSCO Uganda's collaborative approach government has enabled connectivity in what were internal persons displacement camps. Many of the camps have turned into cyber cafe' s thanks to access to national backbone. We are able to mobilize people in agricultural activities, access markets online, learn about organic agriculture right from our screens in remote areas. Through internet many rural people have come to appreciate solar energy grid more than paraffin oils to light their grass thatched houses and minimize fire accidents. Internet has made learning to read and write and do simple arithmetic in my location in northern Uganda much simpler.'*

6. a) Are you concerned about commercial use of your private information? (posted 28 May 2015 – at the same time as poll number 6b; by 4 August 2015 there were 1,206 votes)

Answers:

- Yes
- No

By 4 August 2015 there were 1121 votes in the English poll, 24 votes in the Spanish poll, 49 in the French poll, 7 in the Arabic poll and 5 in the Chinese poll.

6. b) Are you concerned about government use of your private information? (posted 28 May 2015; by 4 August 2015 there were 1,129 votes)

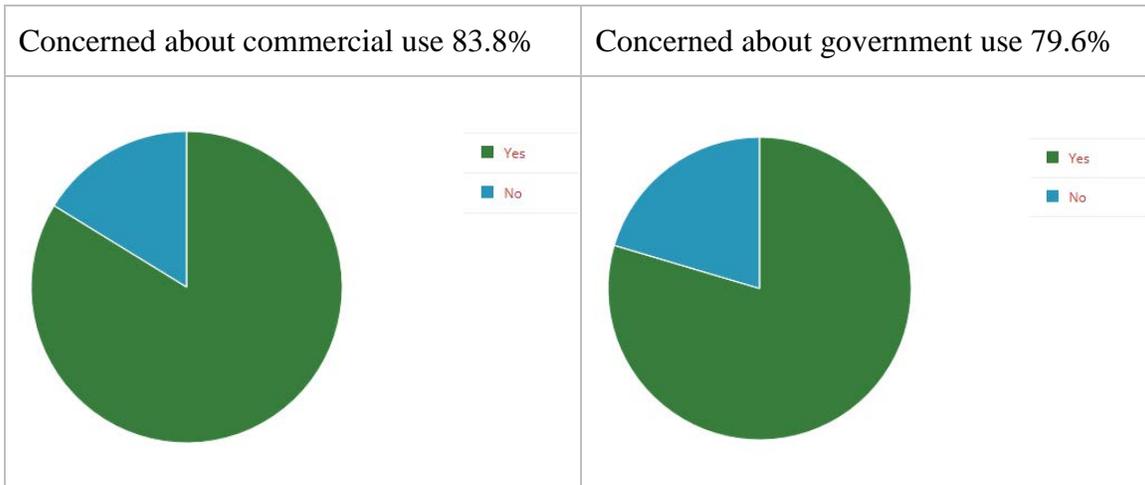
Answers:

- Yes
- No

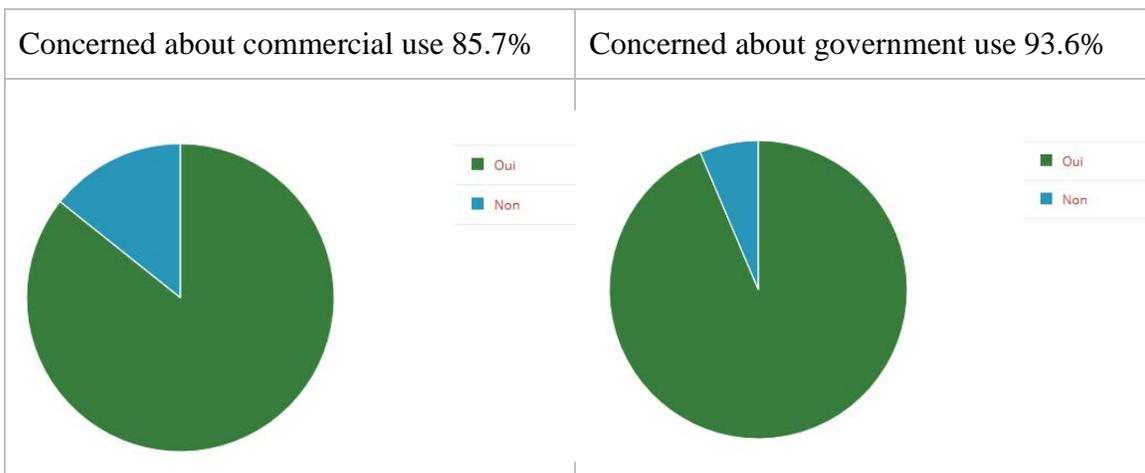
By 4 August 2015 there were 1049 votes in the English poll, 22 votes in the Spanish poll, 47 in the French poll, 7 in the Arabic poll and 4 in the Chinese poll.

Overall, people appeared more concerned about commercial use of their private information than about government use, except in the French and Arabic polls. In the English poll 83.8% of voters indicated they were concerned about commercial use of their information, versus 79.6% who were concerned about government use. In the Spanish poll the numbers were 87.5% and 68.2%, respectively, and in the Chinese poll 100% and 75%, respectively (but with far fewer votes). In the French poll the results were reversed with 85.7% of voters concerned about commercial use of their information, but 93.6% concerned about government use. Similarly, in the Arabic poll 71.4% of voters were concerned about commercial use, and 85.7% about government use (but with fewer votes in these two polls).

**Results from the English poll:**



**Results from the French poll:**



*Map 7. A map of voting locations in the French poll*

The comments that were contributed indicate some level of concern, and in some cases annoyance, with targeted advertising and commercials, which some of the commentators feel restricts the freedom to search for things and information online. Commentators also indicated they do not feel empowered to deal with potential abuse of data, when they are even aware of it. Government use of data could be used for doing good and improving the delivery of public services, but there is also a risk of abuse and the use of data to less laudable ends, especially in more controlling and authoritarian regimes. Others feel like 'Rajkumar': 'I am not against the use of private data of any individual but not all private data', and 'Tony': 'Use of personal information by companies I choose to do business with is usually acceptable. It is the prospect of uncontrolled exchange of data, and the explosion of spam, that is annoying.' But 'Glenn-Marie' cautions: 'lack of credible oversight and accountability will ALWAYS lead to abuse.'

7. Do you think that digital technologies will eliminate your current job over the next ten years? (posted 4 June 2015; by 4 August 2015 there were 1,192 votes)

Answers:

- Yes: New technologies, including the Internet, will replace the task I do at work making me obsolete for my job.
- No: Some jobs will always require people and face-to-face contact, even if some tasks may be impacted by the Internet.

By 4 August 2015 there were 1,061 votes in the English poll, 84 votes in the Spanish poll, 39 in the French, 5 in the Arabic poll and 3 in the Chinese poll.

Voters in all polls seemed mostly optimistic about the future of their current job, with 90.6% of voters in the English poll voting they are not concerned technology will eliminate their current job in the next 10 years, 76.2% in the Spanish poll, 89.7% in the French poll, 60% in the Arabic poll, and 66.7% in the Chinese poll (but the latter two polls with fewer votes).

The comments indicate people think technology will replace some jobs and may alter the requirements for others (e.g. less travel due to video conferencing, new skills for doing things differently with new technologies), while it will also create new jobs as illustrated, for example, by 'Vinod': 'Devitalized Technology is a necessity, it may obsolete few jobs, but that is always the case with development and technology, however it happens only for good. New jobs will be created.'

8. **Has the Internet made your local or national government more responsive to citizens?** (posted 11 June 2015; by 4 August 2015 there were 881 votes)

Answers:

- Yes: The greater transparency and flow of information enabled by digital technologies will improve democratic participation, increase public sector accountability, and enhance service delivery.
- No: Governments remain entrenched in their old ways and digital technologies cannot address more fundamental problems of unaccountable and inflexible bureaucracies.

By 4 August 2015 there were 734 votes in the English poll, 60 votes in the Spanish poll, 64 in the French poll, 17 in the Arabic poll and 6 in the Chinese poll. Voters leaned to the yes answer in the English and Arabic polls (68.9% and 64.7%, respectively), but were more pessimistic in the other polls with 41.7% of no votes in the Spanish poll, 46.9% in the French poll, and 33.3% in the Chinese poll.

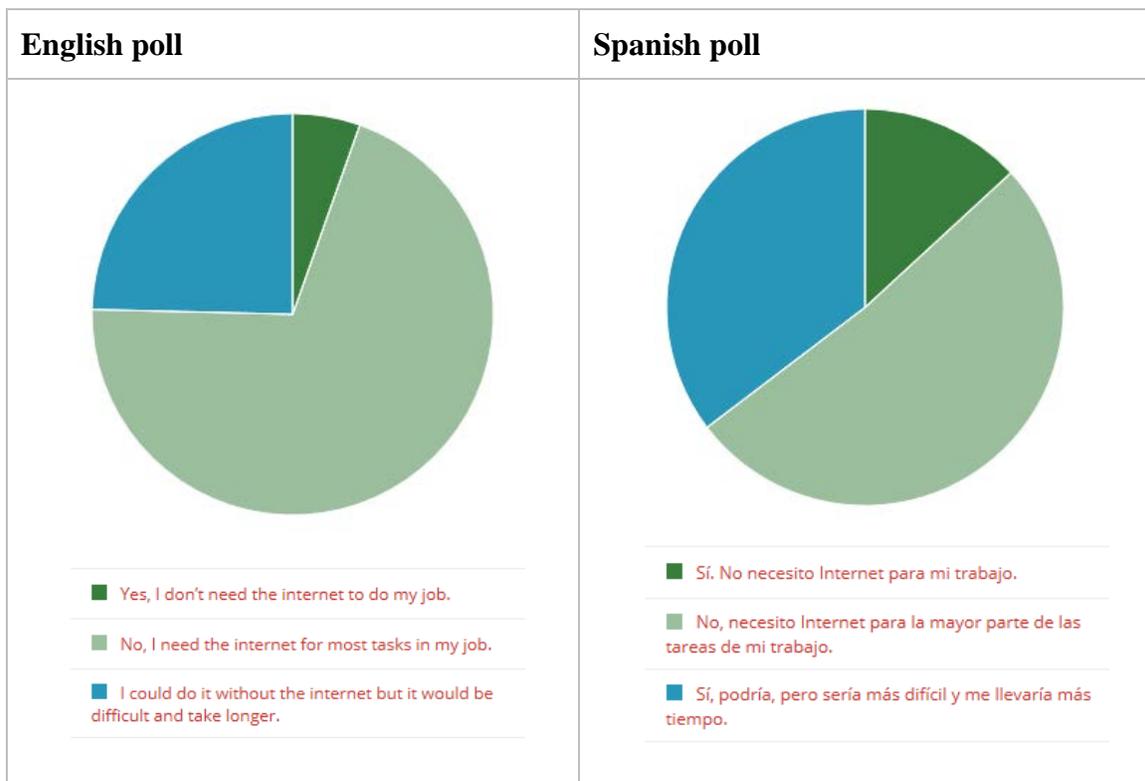
The comments that were contributed focused on the use of social media by governments and political parties to create more communication and distribute information. For example, 'Naveen' contributes: *'In my country India, there has been a drastically increase in use of internet recent 1 or 2 year, Politician use internet to reach out to mass public. Although representatives use social media to boast about the work done by them. Also, They have to face criticism over internet about their bad deeds. people came to know about the schemes launched and flaws of the government.'* However, as 'Tony' notes: *'So far much of government use of digital media - national and local and I have been involved in both - has tried to 'digitise' existing thought processes. There is plenty of PR activity and lots of internet content, but the basic thought processes in most public authorities have changed little. A key problem is that digital technologies require a degree of openness and sharing of information to deliver real gains in participation and in productivity that holders of power are unwilling to concede. This is as true in many established democracies as it is elsewhere. The illusion of participation is much easier to deliver than the reality.'*

9. **Could you do your job without the internet?** (posted 18 June 2015; by 4 August 2015 there were 1.217 votes)

Answers:

- Yes, I don't need the internet to do my job.
- No, I need the internet for most tasks in my job.
- I could do it without the internet but it would be difficult and take longer.

By 4 August 2015 there were 995 votes in the English poll, 99 votes in the Spanish poll, 85 in the French poll, 36 in the Arabic poll and 2 in the Chinese poll. Across all polls, the majority of voters indicated they could either not do their job without the internet, or that it would be difficult. In the English poll, 5.4% voted yes, 70% voted no, and 24.6% yes but it would be difficult. The distribution was somewhat different from the English poll for the Spanish, French and Arabic polls: voting yes with 13.1%, 10.6%, and 16.7%, respectively; voting no with 51.5%, 58.8% and 58.3%, respectively; and yes but it would be difficult with 35.4%, 30.6% and 25%, respectively. *'Katie' illustrates: 'Many new services rely on the internet as a key element of their business model. My job, research, does not technically rely on the internet. But it would be much more difficult and onerous without it. The internet has already fundamentally reshaped the way we do business, and dismantled many of the institutions of the pre-internet world.'*



Map 8. A map of voting locations in the Spanish poll

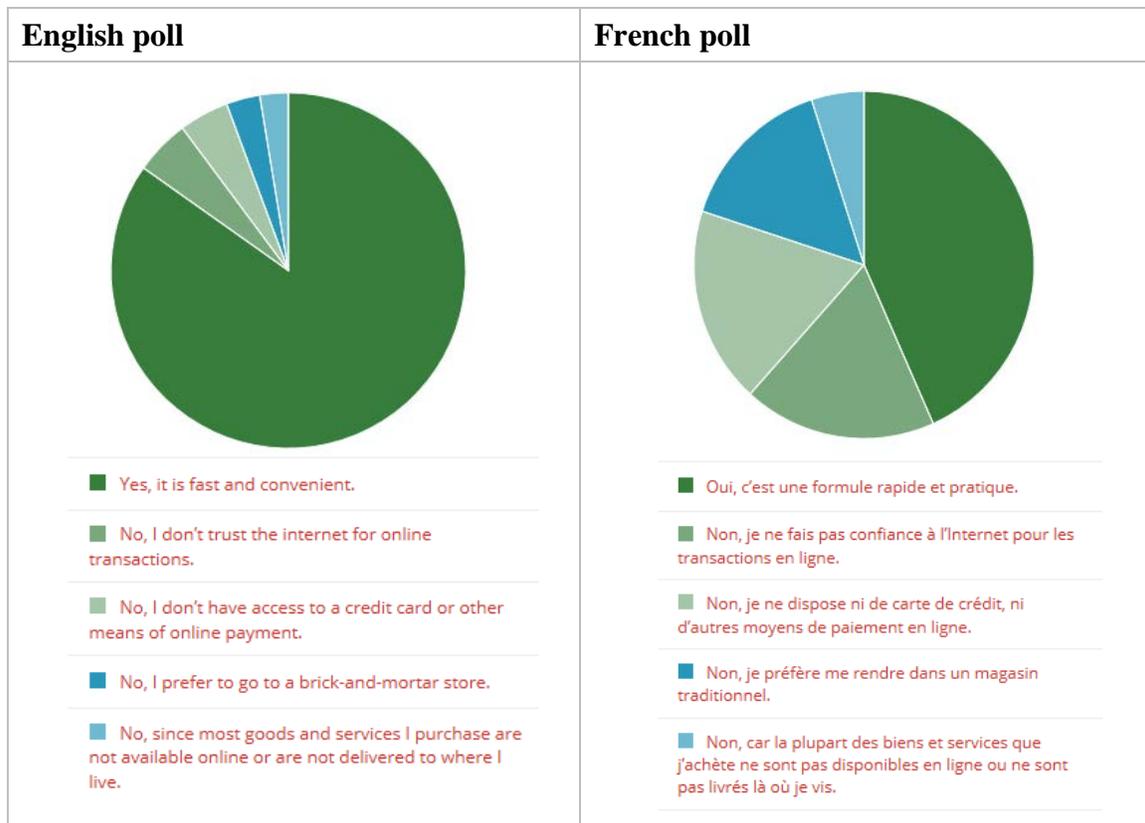
10. Have you bought any goods or services online in the past one year?  
(posted 25 June 2015; by 4 August 2015 there were 691 votes)

Answers:

- Yes, it is fast and convenient.
- No, I don't trust the internet for online transactions.
- No, I don't have access to a credit card or other means of online payment.
- No, I prefer to go to a brick-and-mortar store.
- No, since most goods and services I purchase are not available online or are not delivered to where I live.

By 4 August 2015 there were 618 votes in the English poll and 60 in the French poll. Unfortunately, the other languages polls were not posted/advertised/promoted so collected only a few votes (6 in the Spanish poll, 1 in the Arabic poll, and 6 in the Chinese poll).

In English poll a vast majority voted yes, 84.8%, with the no distribution as follows: no (trust) 5.0%; no (payment) 4.5%; no (brick and mortar) 3.1%; no (availability/delivery) 2.6%. In the French poll 43.4% voted yes, 18.3% no (trust), 18.3% no (payment), 15.0% no (brick and mortar), and 5.0% no (availability/delivery).





Map 9. A map of voting locations in the French poll

Comments highlight that online shopping has made life so much easier for those with access, though one contributor does wonder if it will make us lazy and unhealthy. *'Michael'* contributes: *'I made 3 purchases in the last hour - coffee capsules, printer cartridges - directly from the print menu following a print job, and a new Kindle/Audible book I wanted. Two of these 3 items are NOT available other than through internet purchase in the US. One is entirely digital and actually available to me ANYWHERE in the world, thanks to the internet (Kindle/Audible Books). Purchasing these 3 items took less than 20 minutes. It works.'*

Others are not so lucky, a contributor deplores being deprived of online transactions for not having access to a credit card, 'the secret economy killer', illustrated by *'AV Senevi'*: *'No I don't have access to a credit card, sad to say we have a secret economy killer [...].'*

11. **Will the digital divide-the gap between those with access to modern information and communications technology and those without it-disappear over time?** (posted 2 July 2015; by 4 August 2015 there were 709 votes)

Answers:

- Yes: The dramatic reduction in cost of digital equipment and services and radical new technologies to expand digital access to all parts of the world economy would imply a shrinking digital divide overtime. Just like the universality of the feature phones, the poor will be able to afford smart phones and access the internet like everyone else.
- No: While existing digital divide will be overcome, new divides will emerge. By the time most poor households have smart phones, the rich would have moved to

wearables, autonomous vehicles, 3D printing, and so on. And even if we can reduce digital divide across countries, access to the internet between men and women, rural and urban areas and rich and poor households within each country will persist.

By 4 August 2015 there were 596 votes in the English poll, 76 votes in the Spanish poll, 22 in the French poll, 9 in the Arabic poll and 6 in the Chinese poll. Voters in the Spanish and French polls were more pessimistic than in the other polls, voting no with 73.7% and 63.6%, respectively. In the English poll 53.5% voted no, 44.4% in the Arabic poll, and 50% in the Chinese poll.

*'Sourav' is optimistic: 'Earlier there was lack of access to internet in rural areas and so the digital gap was more. Now even though the technology may seem to be developing as a faster rate, but with access of internet the digital divide will always reduce with time. We can account the problem in three facts namely a) Availability b) Accessibility c) Affordability. a) Internet is ready to penetrate every strata of society b) With smart phone in every hands, it is accessible to all. c) With increased market competition, the cost of internet is going to reduce.'* Others highlight that the original divide in access will likely continue to be reduced, including for rural areas, but new ones may arise, such as in skills and the ability to use digital technologies. As *'Tony'* argues, *'the gap in people's ability to use the digital domain will remain - and the degree to which people are excluded will depend on education, incentives and regulation.'*