Contribution to the ITU CWG-Internet Open Consultation:
Building an enabling environment for access to the Internet

http://www.itu.int/en/council/cwg-internet/Pages/consultation-feb2016.aspx

What are the elements of an enabling environment to promote Internet connectivity?
What are the elements of an enabling environment to promote an affordable Internet?
What are the elements of an enabling environment to promote the quality of access to the Internet?
What are the elements of an enabling environment to build confidence and security in the use of the Internet?
What is the role of Governments in building an enabling environment?

Google welcomes the opportunity to provide input into the open consultation on this topic. Internet access is a key part of Goal 9 of the Sustainable Development Goals (SDGs) agreed by the United Nations in September 2015.

Abundant and Affordable Access

Google supports the development of Internet connectivity across the world - we have a vision of abundant and affordable access for everyone.

The ability of users to access our services depend on the availability of Internet access, and content providers drive user demand for Internet access services. This is a virtuous circle between content, users, and access that has helped the Internet grow and scale to the open, bottom-up network it has become today.

There are various barriers to increased access. on both the supply and demand side. These barriers need to be addressed in a coherent and holistic way in order to promote Internet usage:

- Availability
- Affordability
- Capability
- Relevance[1]

Availability and affordability relate to the supply of Internet access, that there is both coverage (whether fixed or wireless) and that it is a reasonable proportion of user income, so that Internet access is priced within the reach of all users. Capability and relevance relate to the demand for Internet access - users must see a need for Internet access in order to subscribe, with relevant services and content available to them in formats and languages which they can understand.

[1] From the “Digital Britain” report (2009)

Competitive market-based solutions provide the best way of providing an enabling environment for increasing Internet access. A regulatory environment that encourages competition, connectivity, and content, and reduces barriers to building infrastructure and launching Internet services, provides the best outcomes for users.

Google and Alphabet is contributing to the availability of abundant and affordable Internet connectivity across the world. Our investments aim to showcase new and innovative approaches to both technical challenges and business models. Examples include:

- Project Link[2] - building open access metropolitan wholesale fibre networks in Uganda and Ghana, for use by any operator or licensed ISP. This shared infrastructure reduces costs for operators, and allows increased performance for users.
- Project Loon[3] - an innovative project, working in partnership with operators to extend mobile coverage in remote areas, by using balloons floating in the stratosphere. These “towers in the sky” can provide mobile coverage to areas previously considered uneconomic.
- Google, along with other content providers and international network operators, invests in its own network infrastructure to carry its traffic, and to bring our services close to users. This reduces costs for telecoms operators to whom we deliver our traffic, and improves performance for users. We carry Google traffic up to 99% of the way to users, by building our own network (often in co-operation with other telecommunication providers), and also provide Google Global Cache servers to telecoms operators and Internet Exchanges in over 100 countries worldwide.[4]

Capability and relevance, the “demand side” of Internet access, is as important as availability and affordability. Locally relevant content, and users having sufficient digital skills, are a critical part of the equation. A recent study by GSMA[5] identified “lack of awareness and locally relevant content” as the biggest barrier overall to internet adoption in Africa, for example cited by 58% of respondents in North Africa. Lack of digital skills was the second largest barrier cited, and affordability was only the most significant barrier in 1 out of the 13 markets surveyed by GSMA.

Again, competition-based market solutions are often the most appropriate way of addressing these obstacles to Internet adoption and use. Lowering legal and regulatory barriers to produce, host and share locally relevant content and launch innovative Internet services help to provide this relevance to users. A recent study by ISOC showed that hosting content locally, in conjunction with a successful Internet Exchange, led to improved performance for users and increased usage of Internet services.[6] However, this same report cautions against forced data localization, which may threaten the openness, diversity, and low barriers to

[2] https://www.google.com/get/projectlink/
[3] https://www.solveforx.com/loon/
[4] https://peering.google.com/#/
[5] GSMA (2016) “Consumer Barriers to Mobile Internet Adoption in Africa”
[6] Internet Society (2015) “Local Internet Hosting Opportunities Key to Furthering Internet Development In Emerging Economies”

entry of the Internet. Instead, it emphasizes the importance of providing a positive enabling environment that incentivizes local hosting and service development.

To address capability challenges, education of users in digital skills is important. These initiatives can take many forms, and can in some cases make commercial sense. For example, a small study in Bangladesh by the Mozilla Foundation and GSMA[7] found that users who had initial training on use of a smartphone, consumed and purchased more data than a control group who did not.

Google is assisting with the demand side of Internet access in a number of ways:

- Building users' capabilities, by training 2 million people in Europe[8] and 1 million people in Africa[9] in digital skills
- Increasing the relevance of services for users, by providing Google Maps Street View in 77 countries, partnerships with transit authorities in 64 countries, and Google Translate now supports 103 languages covering 99% of the world's population[10], helping to make content on the Internet accessible to everyone.

Building Confidence and Security

Building confidence and security requires the co-operation and support of all stakeholders in the Internet ecosystem.

Users have a role to play, by keeping their devices secure, by having secure passwords, using 2-factor authentication or other advanced security methods, and ensuring they apply security updates from software and hardware vendors.

Hardware, operating system, software and services providers have a responsibility to provide secure platforms and services, securely handling user data both in storage and transit, and assisting and educating users in keeping themselves safe and secure. This is also in the interests of these providers, whose reputations depend on the confidence of users.

The technical community have a role to play in sharing best practices, and providing fora for communication, collaboration and education.

Governments and regulators have a role to play in providing the right legal and policy environment to provide confidence in online services and tools, and can play an important role in educating users in good security practices, working in conjunction with other stakeholders. Not mandating "backdoors" or built-in weaknesses in systems and services keeps everyone more secure.

Google is assisting by:

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[7] GSMA/Mozilla Foundation (2015) - "Mobile for Development Impact"
[8] http://googlepolicyeurope.blogspot.co.uk/2016/06/a-new-skills-agenda-for-europe-getting_10.html
[9] https://africa.googleblog.com/2016/04/a-growth-engine-for-africa-training-1.html
[10] https://search.googleblog.com/2016/02/in-2006-we-started-with-machine.html

- Encrypting an increasing percentage of user traffic while in transit, preventing eavesdroppers, “man in the middle attacks”, and hijackers[11]
- Providing users with tools like “My Account” and “Security Checkup” to ensure users can keep their Google data as secure as possible
- Protecting users from e-mail viruses in GMail, or malware through our “Safe Browsing” initiative on Chrome, and by providing public reporting on this[12]

The Role of the Government

An enabling environment for the Internet requires an enabling legal and regulatory environment - that is, the creation of transparent, predictable, independent and non-discriminatory systems to lower barriers to entry, and support innovation and investment, in both Internet access infrastructure, and relevant content and services.

A4AI, the Alliance for Affordable Internet, of which Google is a founding member, publishes an annual Affordability Index with an analysis of drivers and inhibitors in access, and disseminates many best practices in policy and regulatory areas.

Government have an important role in providing “lighthouse” examples of good use of the Internet for governments’ own services. This can increase the relevance of the Internet for users, and provide a reason to get online. For example, Kenya’s government has developed a number of online services including tax collection and student registration, reducing costs for government administrations, and is part of the reason why mobile internet penetration in Kenya is the highest in Sub-Saharan Africa.

In their work, governments should co-operate with all stakeholders in the Internet ecosystem. Expertise, experience, and innovation also comes from the private sector, third sector, civil society, and the technical community. It is only by all stakeholders working together on an equal footing, that a sustainable and successful Internet ecosystem can be built.

[11] https://www.google.com/transparencyreport/https/?hl=en
[12] https://www.google.com/transparencyreport/safebrowsing/