



Sustainable Connectivity: Expanding Infrastrucutre, Empowering People

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- What is **sustainability**?





Sustainable connectivity:

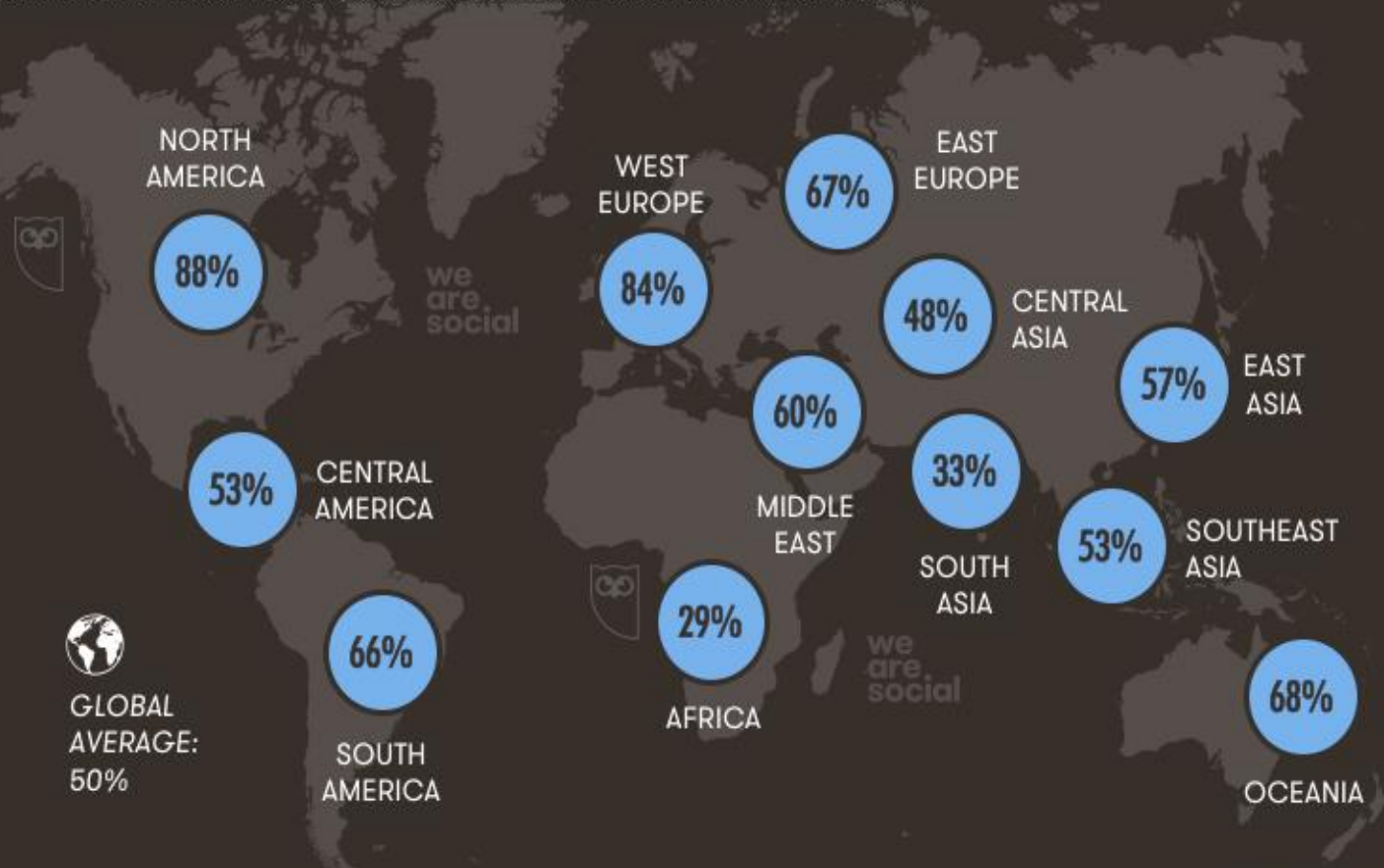
- **Socially** inclusive (affordable, respects human rights, etc)
- **Economically** viable (someone pays the bill)
- **Internet Environment** is not compromised (Internet architecture stays open, general purpose, etc)



JAN
2017

INTERNET PENETRATION BY REGION

REGIONAL PENETRATION FIGURES, COMPARING INTERNET USERS TO TOTAL POPULATION





Let's focus on **3 strategies** to expand access

1. **Government**-led infrastructure enhancement
2. **Zero rating** services
3. **Community networks**



1. **G**overnment-led efforts



- No silver bullet
- Every country has specific features
- **Best practices** for Gov-led infrastructure enhancement can be found in the Korean **integrated approach**



This Korean Model



...not this one





Korea Information Infrastructure 1995 - 2005

- **Privatisation** of state-owned infrastructure
- **Liberalisation + Competition**
- **Reduction of regulatory burden** to facilitate new entrants
- Establishment of a **regulatory Authority**
- Creation of **demand** with *i.a.* **education programmes**



Virtuous Circle

By 2002, many areas of **society** became **computerised**

Increase in overall **productivity** and **efficiency**

Highly technically-**educated population**



PETER KNIGHT
FLAVIO FEFERMAN
NATHALIA FODITSCH
[eds.]

BROADBAND IN BRAZIL

past, present and future



2. Zero rating services



Based on **price discrimination**:

the practice of **not counting data consumption** of **selected apps** against users' monthly **data caps**



Different types of zero rating

- the **operator subsidises** use of specific apps
- the operator allows **app providers** to **sponsor** their apps
- an entity sponsors a **platform** including selected apps
- an entity sponsors a **data volume** to be used at leisure
- **public services** are zero rated



What is the **purpose** of the **most common ZR** models?

- **lure users** with « free » services
- sell **preferential access** to consumers
- orientate **user attention** and choice **towards integrated services**



Advantage for consumers



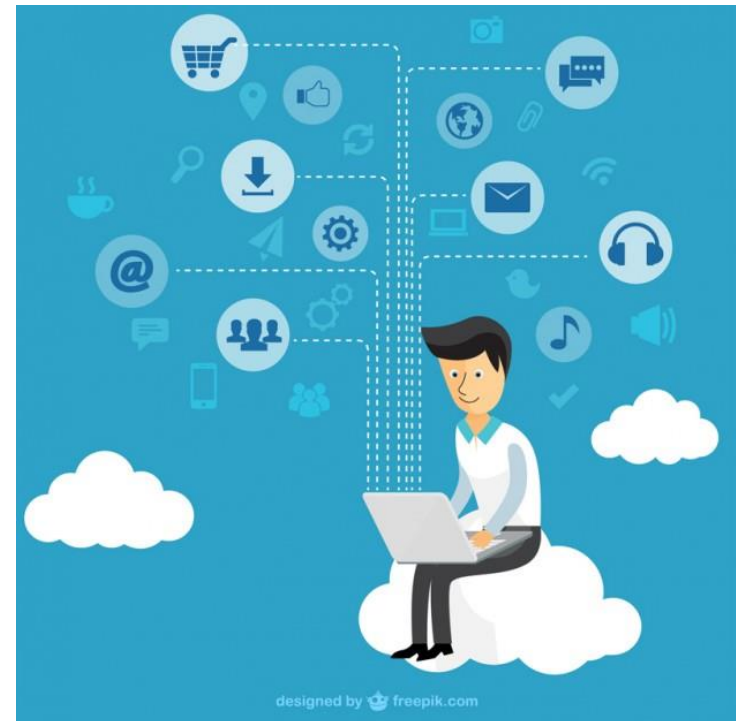
Free access to **specific** services

Internet Users

are **NOT** mere consumers, they
are **prosumers**

they can play an **active** role

can **contribute** to the **evolution**
of a **generative** network,
inventing and **sharing** new
applications





Problem

zero-rating has the potential to **transform active Internet users into passive app consumers**



only **dominant** players have the resources to sponsor their data consumption

or the **bargaining power** to strike zero-rating deals

or the **user-base** necessary to be considered as relevant enough to be included into offerings



**limited data caps are essential for
zero-rating**

no limited data caps -> no zero rating



the **sponsor/operator** acquires the power to **decide**
what apps can be accessed or created/shared





zero-rating has the potential to
Minitelise the Internet

once upon a time... the **Minitel**

a **closed system** where only the **operator decided** which services could be utilised by users, after the **regulator approved** the services





Luca Belli Editor

Net Neutrality Reloaded: Zero Rating, Specialised Service, Ad Blocking and Traffic Management

Annual Report of the UN IGF
Dynamic Coalition
on Net Neutrality

Preface by Tim Wu

IGF Internet
Governance
Forum

FGV DIREITO RIO

<http://tinyurl.com/zerorating>



- **Community Networks**



CNs are **crowd-sourced networks** built by groups of **individuals** pooling their resources and coordinating their efforts to **design, build** and **maintain** the new shared infrastructure



- Usually based on **wireless technology**
- Use **low-cost Wi-Fi** equipment (IEEE 802.11 family of standards)
- Exploit **unlicensed** 2.4 GHz and 5 GHz **spectrum bands**



Virtuous circle of **knowledge-and-innovation**

Capacity building + creation of **new services** *e.g.*

maps; community fora; instant messaging;
VoIP services; local e-commerce services;
services for tourists; etc

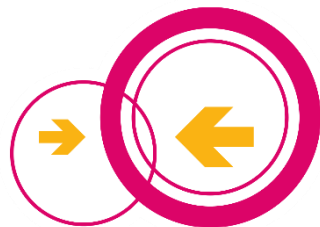


Are CN **sustainable**? It depends...

guifi.net

Red de telecomunicaciones
abierta, libre y neutral

30.000 nodes and 60.000 users



freifunk.net

Berliner Freifunk 30.000 users



ALTER
MUNDI





In **Africa 372 initiatives** have been mapped by Moreno and Graaf but **only 25 are active**



Luca Belli
Editor

COMMUNITY CONNECTIVITY: BUILDING THE INTERNET FROM SCRATCH

*Annual Report of the UN IGF Dynamic
Coalition on Community Connectivity*



[http://tinyurl.com/
comconnectivity](http://tinyurl.com/comconnectivity)

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Thank **you
for **your** attention!**