Measuring Digital Inclusion

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Digital inclusion or digital inequality?

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COVID-19 Pandemic & digital inequality

- Pandemic and lockdown has brought into stark relief the implications of digital inequality - not any longer only for moving ones' work, schooling, banking and play online but also for access to social grants, filing for business relief, unemployment and even food relief (life opportunities & survival)
- Ruptured informal values chains preventing informal sector to act as usual buffer to global economic shocks.
- Compounding effect of digital inequality under pandemic and lockdown

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Digital Inequality Paradox

While connectivity is clearly a precondition of digital inclusion, connectivity in a data environment on its own, does not redress digital inequality.

- As more people are connected digital inequality increases rather than decreases.
- Not only the case between those online and those offline (as in the case of voice and basic text) but also between those who have the technical and financial resources to use the Internet optimally - actively consume, reduce transaction costs, produce – and those barely online, consuming miniscule amounts of data for passive consumption.

Digital inequality one of our wickedest policy problems

UN SG António Guterres: Together with climate change, biggest global challenge to humanity.

"But, the digital divide is now a matter of life and death for people who are unable to access essential health-care information. It is threatening to become the new face of inequality, reinforcing the social and economic disadvantages suffered by women and girls, people with disabilities and minorities of all kinds. In 2019, some 87 per cent of people in developed countries used the Internet, compared with just 19 per cent in the least developed countries."

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COVID - contact tracking, mobility monitoring, dashboard

- Bluetooth-enabled smart phones do not exist in sufficient numbers to make the applications worthwhile
- Invisibility or bias in data for dashboards
- Rights and data protection framework not in place – lack of trust – private and state surveillance
- Simply not the physical resources even to follow up on mobile data for contact tracking purposes

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7 SDG ICT indicators - 6 targets under SDG Goals 4, 5, 9,17

- Digitalisation has been identified as a crucial ingredient for achieving some SDGs.
- Digitalisation plays a crucial role accelerating access to knowledge, economic growth, job creation, equality - and can create new opportunities for innovation.
- Is critical to facilitating international trade by providing access to and accelerating communication and facilitating payments.
- Digitalisation has been identified as a crucial ingredient for achieving some SDGs.
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- Is critical to facilitating international trade by providing access to accelerating communication and facilitating payments.
- Digital advancement is commonly linked with growth and economic integration. But the process is not automatic. Technological advancements are not a guarantee of greater trade and economic integration nor social and economic inclusion.
- Understanding what factors limit participation in the digital economy is crucial to policy makers if we are to address digital inequality and realise the benefits of advanced technologies.
- **ITU and Broadband Commission have warned that we are far off meeting ICT target for 2030.**

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Countering the hype of the Fourth Industrial Revolution, 5G, Smart Cities…deflects attention from 2 & 3 Industrial Revolution issues of universal access and use

Technology will not necessarily translate to economic development, wage growth or productivity.

Unless very intentional balancing of commercial, supply side valuation in allocation of resources to demand side valuation considerations, advanced technologies will exacerbate digital inequality rather than alleviate it

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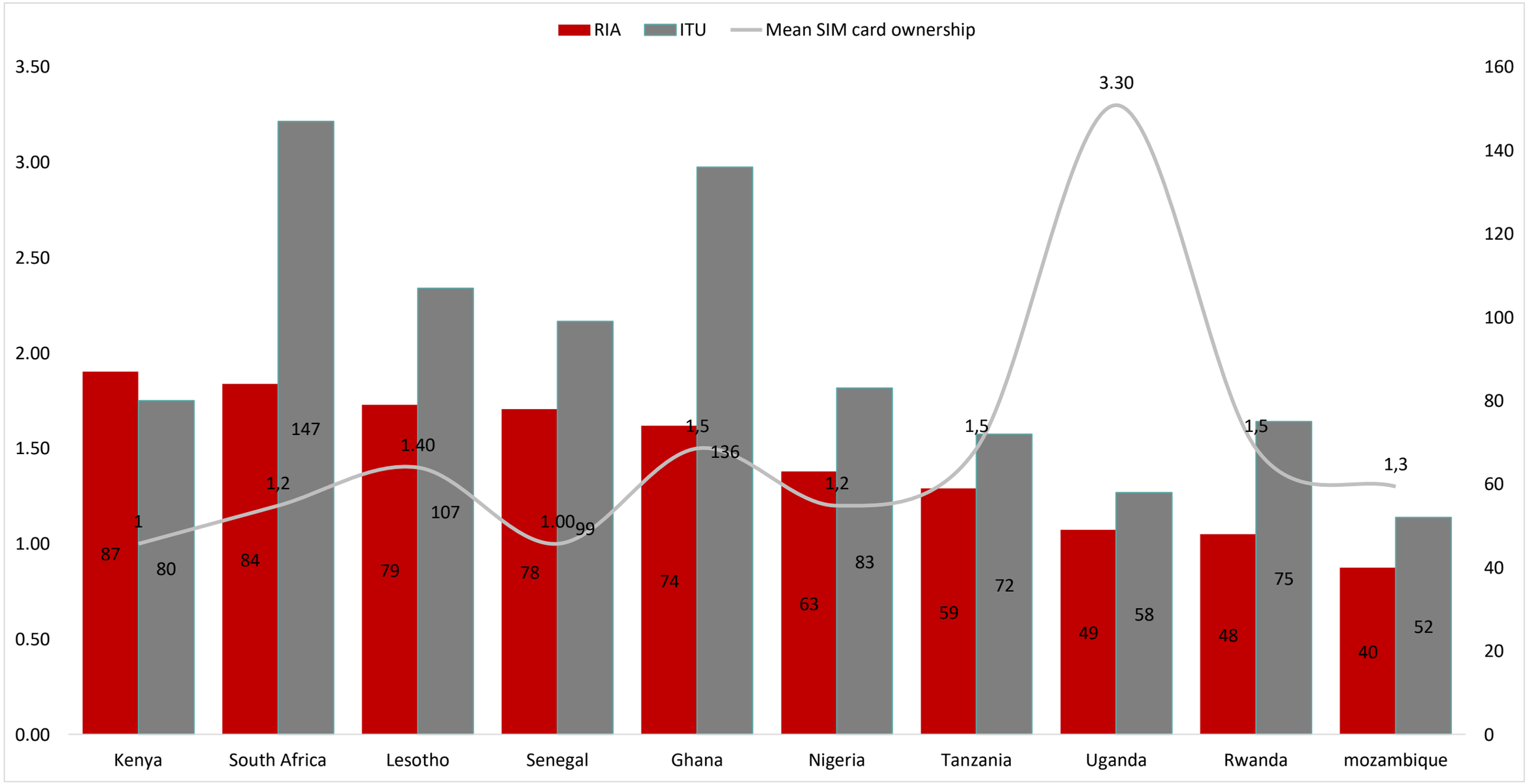
ICT Indicators

We do not have the official data to know our progress toward SDGs or national targets

COUNTRY	RANKINGS					ICT INDICATORS		
	IDI (ex 176)	NRI (ex 139)	ADI (ex 58)	MCI (ex 163)	3i (ex 139)	1 GB prepaid data USD	Active SIM cards per 100	Internet subscribers per 100
South Africa	92	65	22	90	39	8.28	147	54
Nigeria	143	119	13	125	45	5.00	83	26
Kenya	138	86	30	116	51	2.94	82	26
Ghana	116	102	26	113	49	2.24	128	35
Namibia	118	99	31	128	N/A	5.9	99	31
Rwanda	153	80	21	134	63	2.39	75	20
Tanzania	165	126	39	136	57	2.25	72	13
Uganda	152	121	32	145	64	2.77	55	22
Sources	**ITU, 2017**	**WEF, 2016**	**A4AI, 2017**	**GSMA, 2017**	**EIU, 2017**	**RAMP Index (Q4 2017)**	**ITU, 2016**	**ITU, 2016**

Source: Adapted from Esselaar, Gillwald and Stork, 2017

Supply versus nationally representative demand side data



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Problems with unaudited supplier reported administrative data

ICASA (2020) The State of the ICT Sector Report in South Africa

"At the national level, the GHS reported that in 2018 the proportion of Households with access to Internet was at 64.7%. In terms of how access is defined, it means that at least one member in a Household could access the Internet either at home, workplace, place of study or Internet café. "

"…smartphone penetration was at 81.7% in 2018 and 91.2% in 2019."

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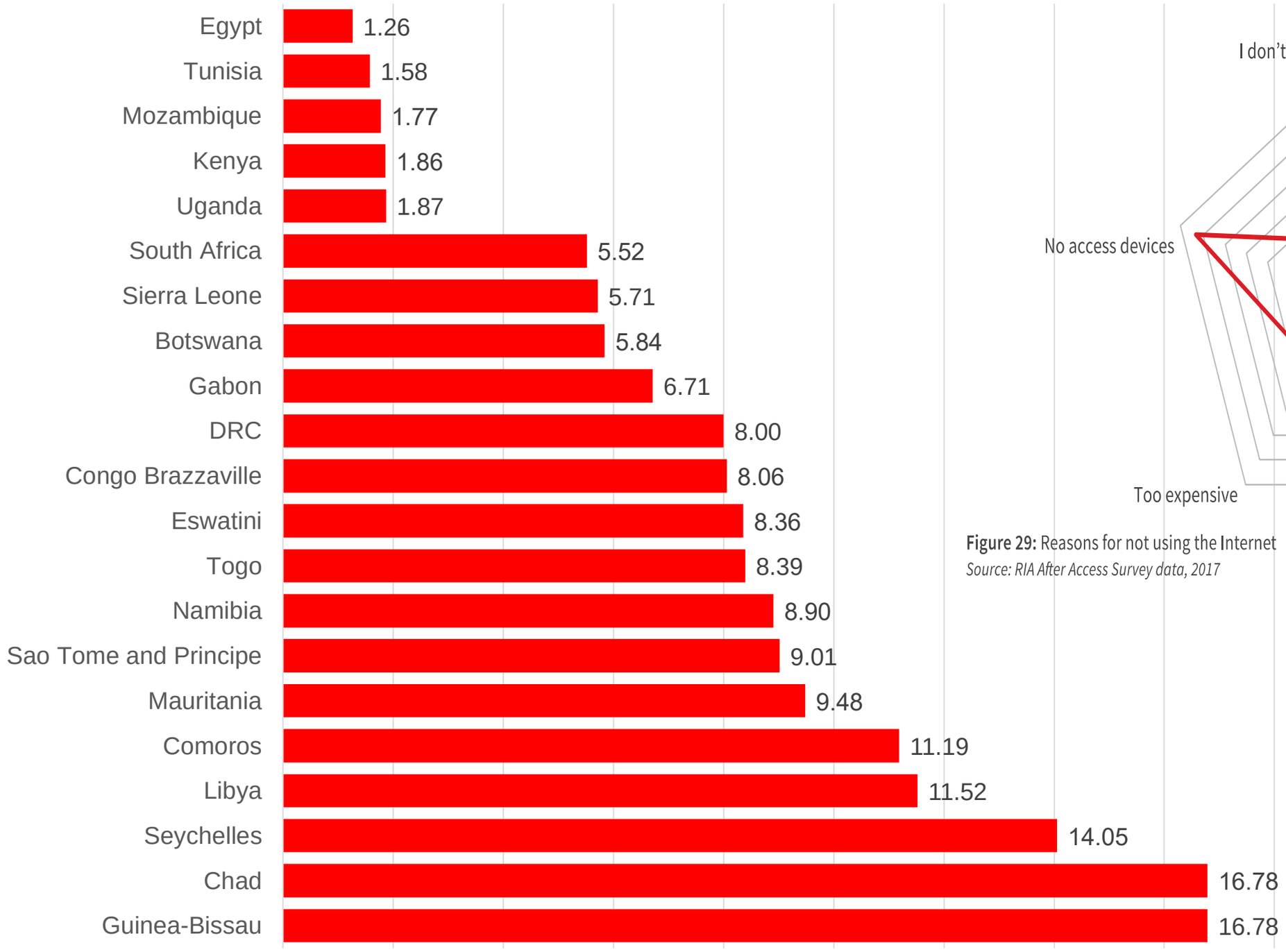
Barriers to access

Price, quality, digital literacy

1 GB data prices(USD) on the RAMP Index (2020Q2)



Affordability of devices

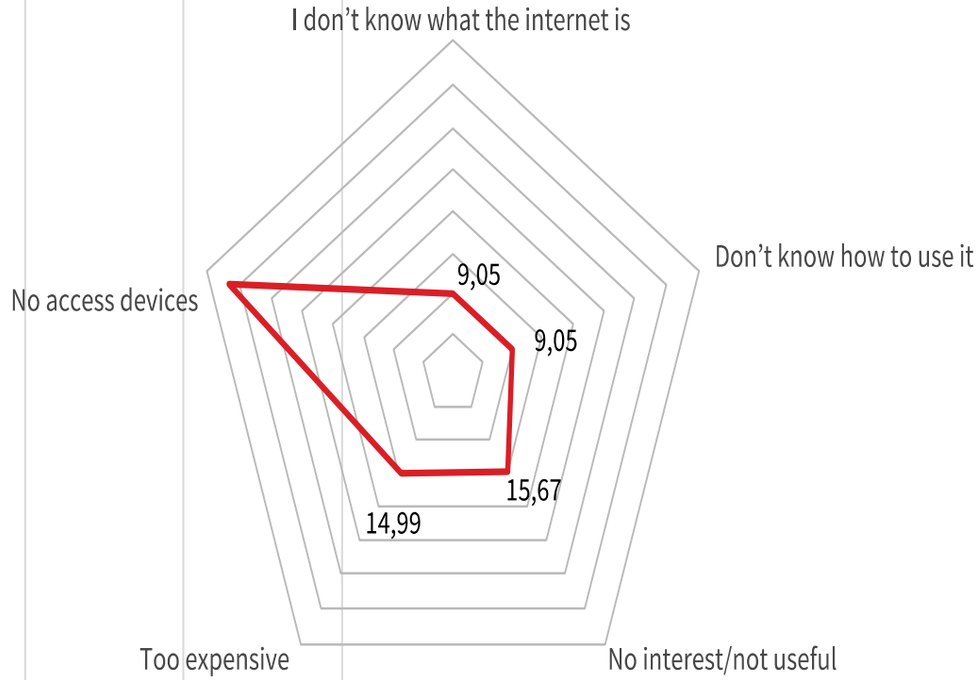


Figure 29: Reasons for not using the Internet
Source: RIA After Access Survey data, 2017

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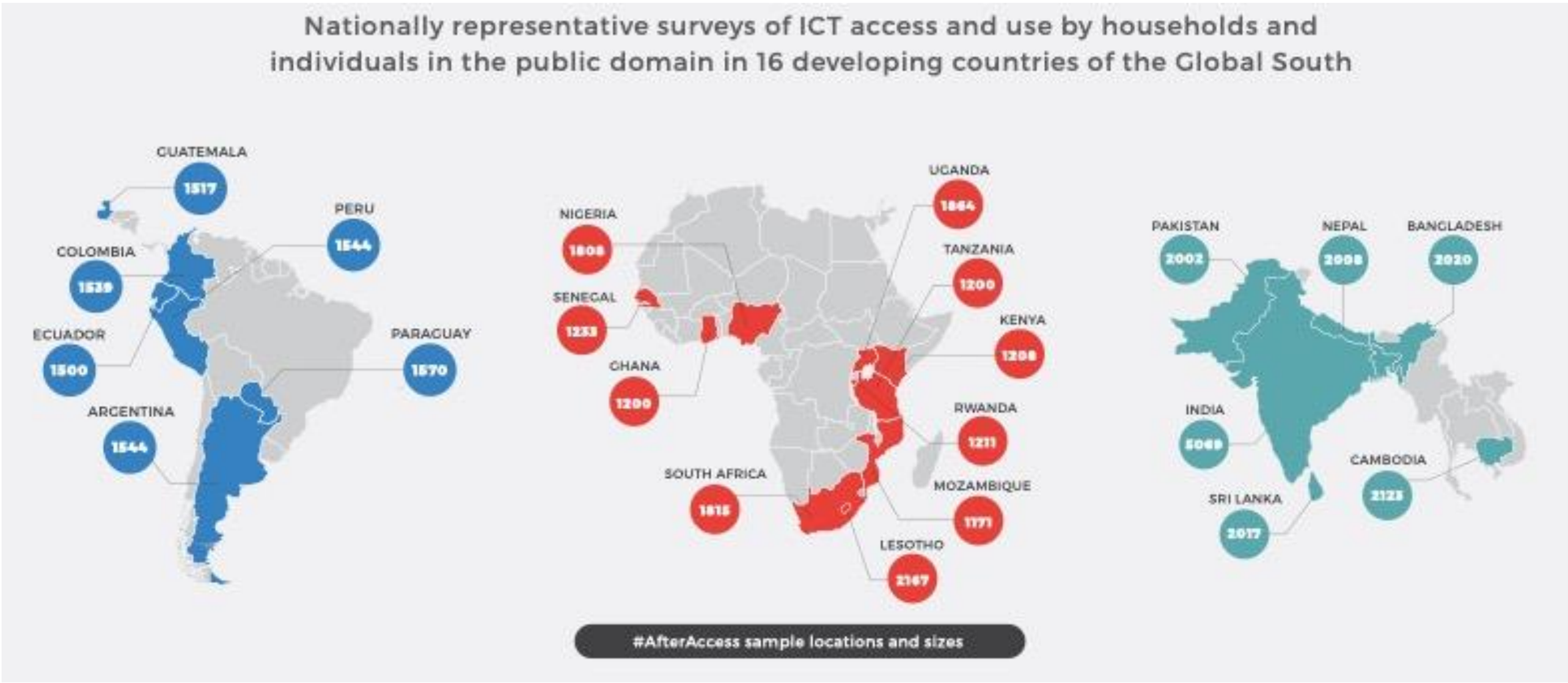
Nationally representative surveys of ICT access and use by households & individuals aged 15-65; In 16 developing countries; Data represents 30% of the global population; 28,900 face-to-face interviews; +/-3 margin of error



Mobile phone ownership, Internet use tracks GNI per capita

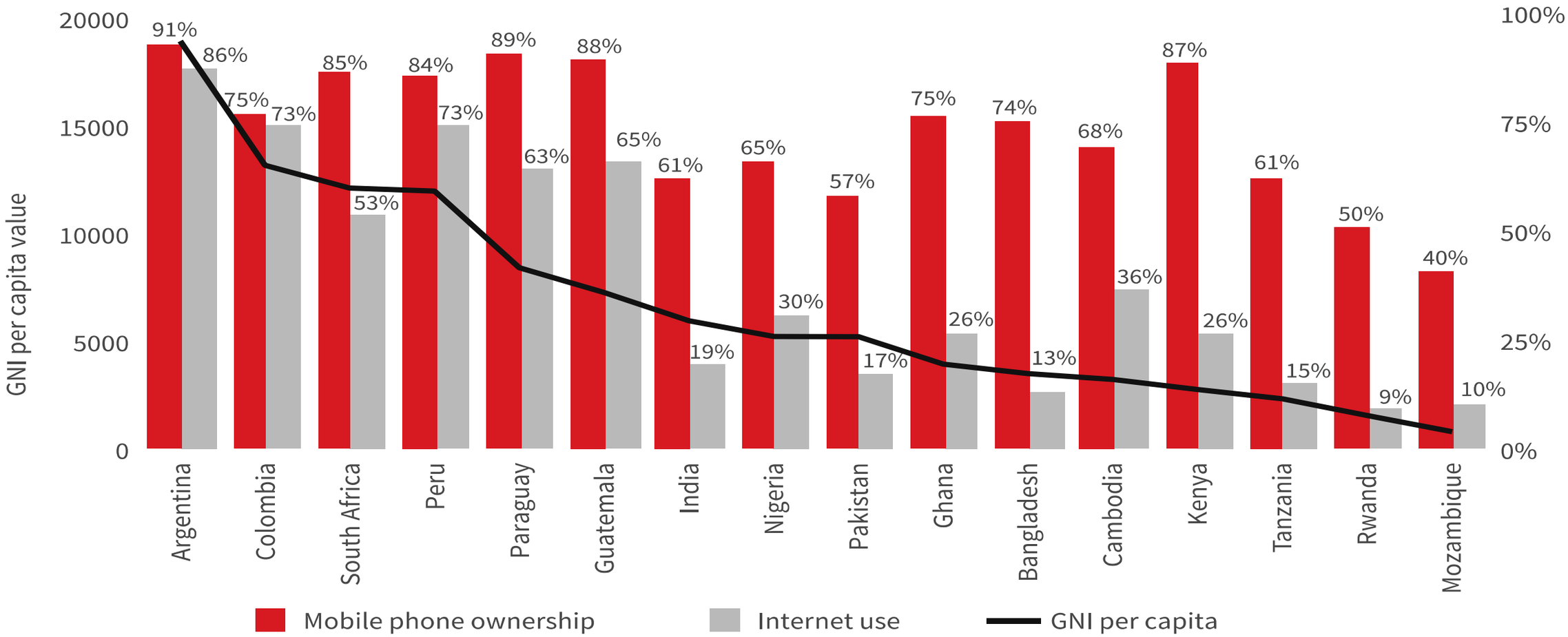


Figure 1: Mobile phone ownership, Internet use and GNI per capita
Sources: RIA After Access Survey, 2017; World Bank, 2018

Broadly penetration tracks GNIpc

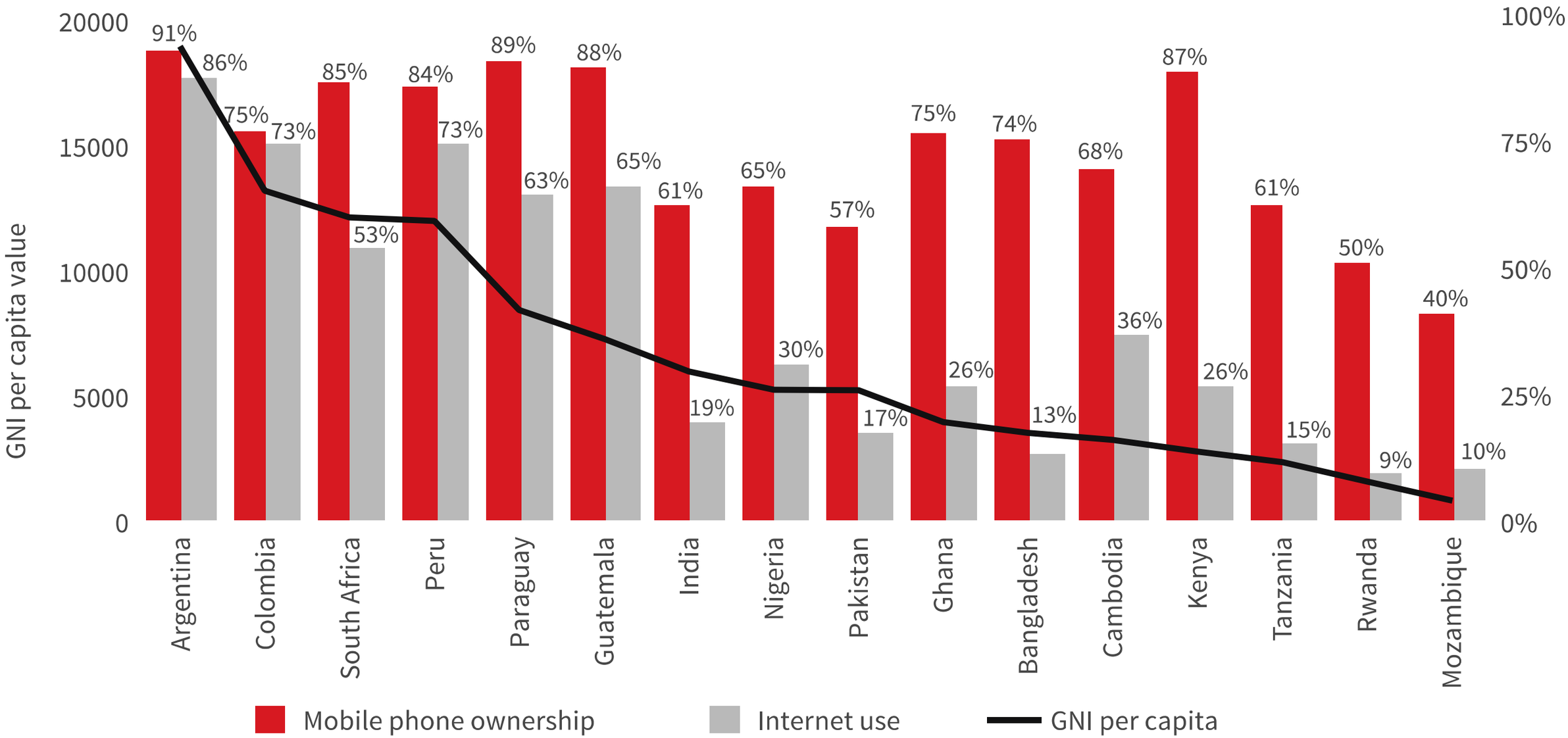


Figure 1: Mobile phone ownership, Internet use and GNI per capita
Sources: RIA After Access Survey, 2017; World Bank, 2018

Gender gap and urban-rural divide

Modelling shows that determinants of access are education & income

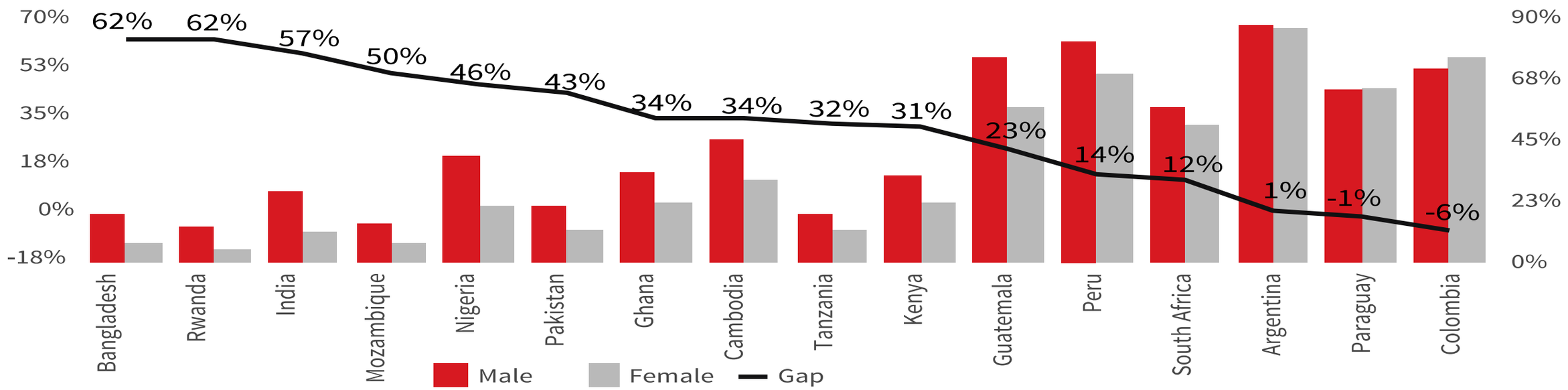


Figure 2: Gender gap in Internet use

Source: RIA After Access Survey, 2017

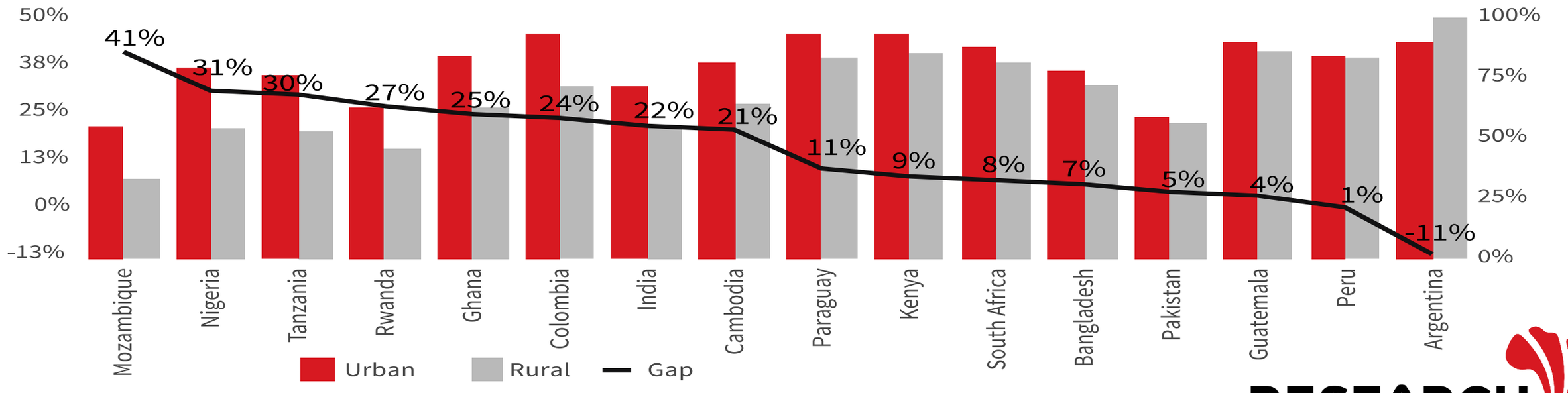


Figure 3: Urban–rural divide in Internet use

Source: After Access Survey, 2017

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Access to internet about poverty, education, income

Table 16: Ownership and use of ICTs by income

INCOME (ZAR)	MOBILE PHONE	SMARTPHONE	INTERNET
0 – 1 583	82%	45%	51%
1 584 – 7 167	81%	38%	37%
7 168 – 7 167	95%	74%	74%
7 168 – 1 6418	100%	93%	98%
16 419 – 33 333	100%	100%	100%
33 334 – 57 333	100%	100%	100%
57 334 – 123 417	100%	100%	100%
>123417	100%	100%	100%

Source: RIA After Access Survey data, 2017

Smartphone penetration aligned with Internet penetration

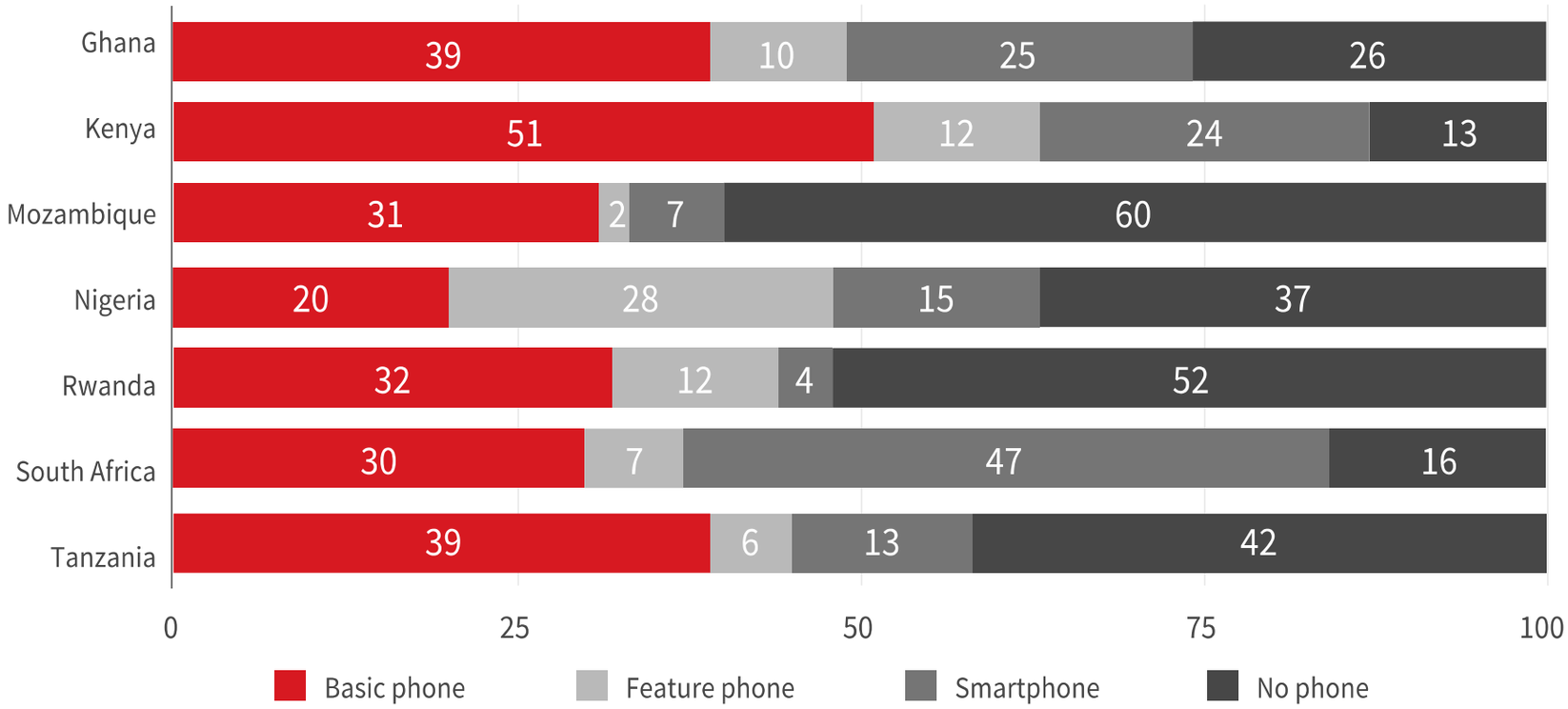

Figure 22: Penetration level by type of mobile phone

Source: RIA After Access Survey data, 2017

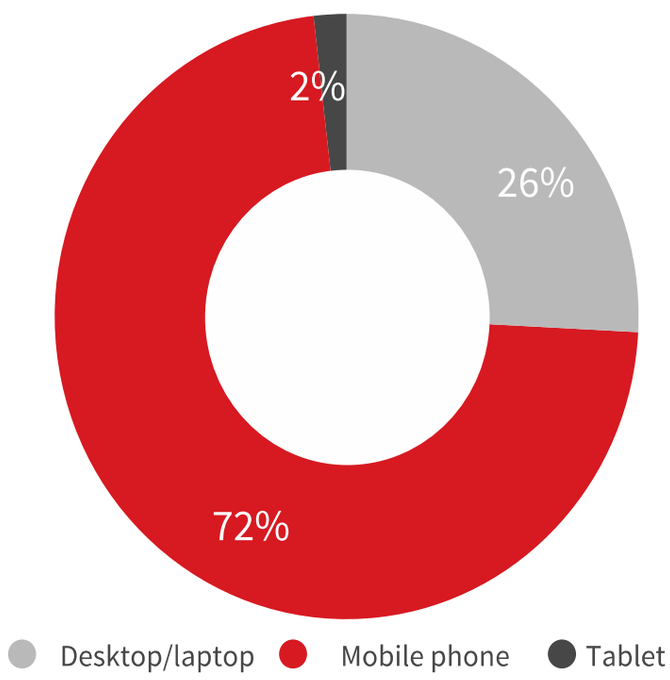

Figure 23: Population grouped by 'device used' to access the Internet

Source: RIA After Access Survey data, 2017

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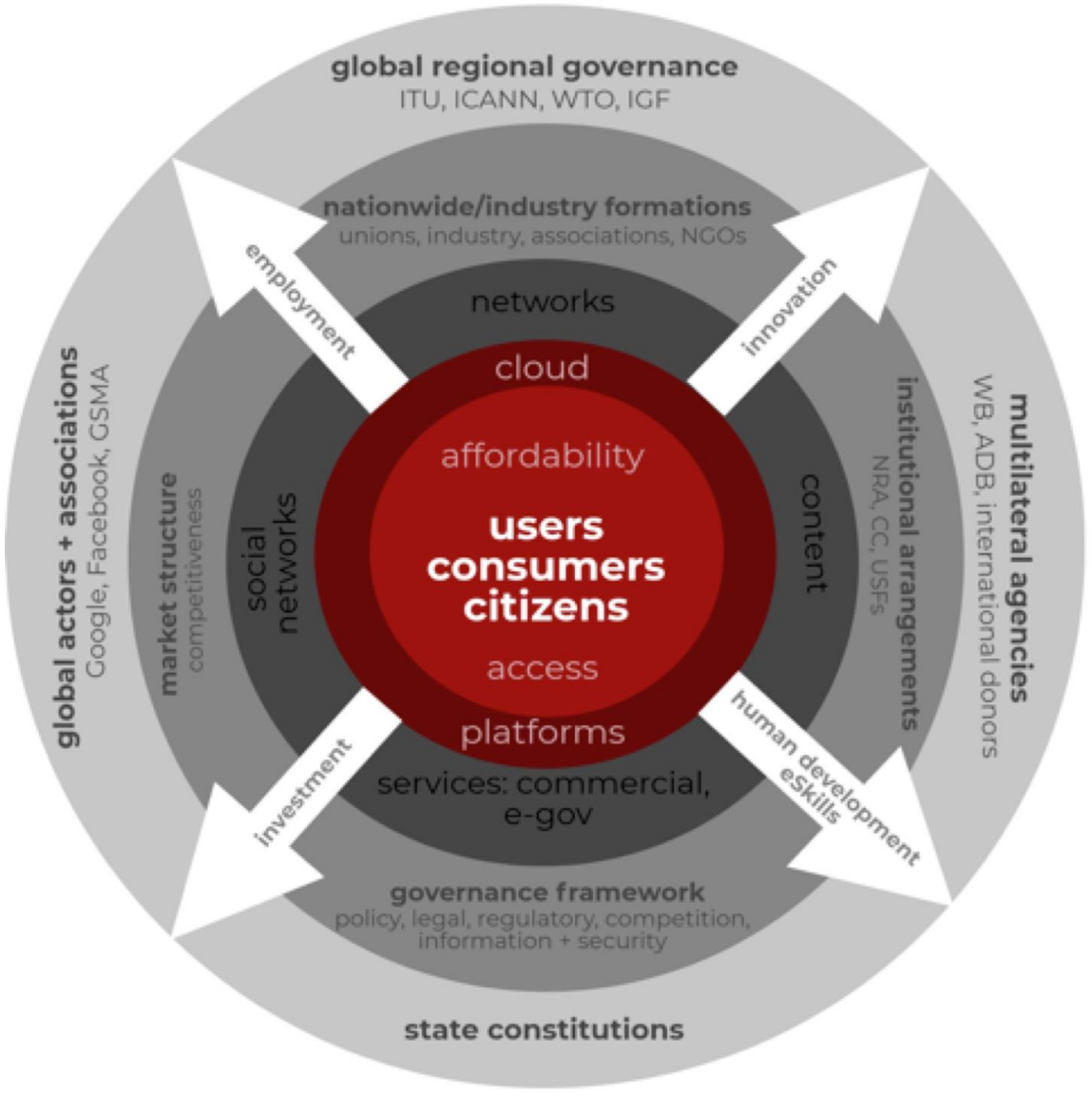
The problem of being unconnected

- Global public goods not available to vast majority of Africans.
- Many countries are below the 20% critical mass to enjoy **network effects** (penetration and use) (Roller & Waverman 2006).
- Poor market regulation – negative impacts on **investments and consumer welfare**.
- Low levels of **human development** prevent harnessing digital technology for personal wellbeing and **entrepreneurship**.
- **Cost and quality** of broadband not conducive to **innovation**.
- Little contribution to national prosperity (value add to GDP and development).
- Personal data is still exploited (e.g. via biometrics and computer surveillance), bringing risks and harms to subjects.

Digital ecosystem and global governance



The dynamism and complexity of the processes of **digitalisation** and **datafication** presents challenges for the public interest governance of these global platforms, services and products

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High Level Panel on Digital Co-operation

’The Age of Digital Interdependence’ Report 2019

Panel included five sets of recommendations on how the international community could work together to optimize the use of digital technologies and mitigate the risks:

1. Build an inclusive digital economy and society;
2. Develop human and institutional capacity;
3. Protect human rights and human agency;
4. Promote digital trust, security and stability;
5. Foster global digital cooperation.

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Mobile money increasing financial inclusion in Africa

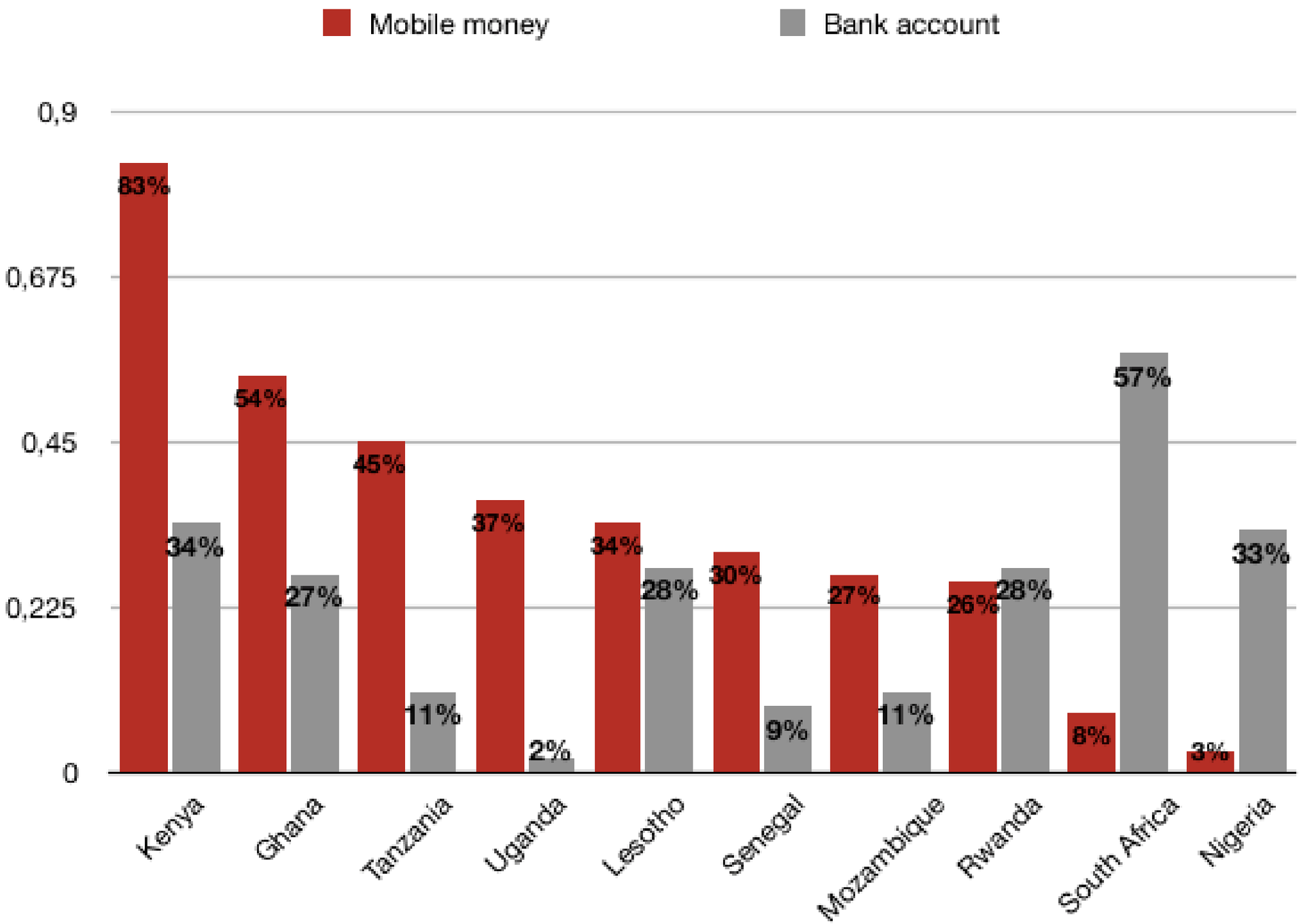

Figure 19: Mobile money service and bank account ownership in Africa

Source: RIA After Access Survey data, 2017

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Platform work

Informal sector Internet access 7% on average across Africa and as low as 1% in least developed countries

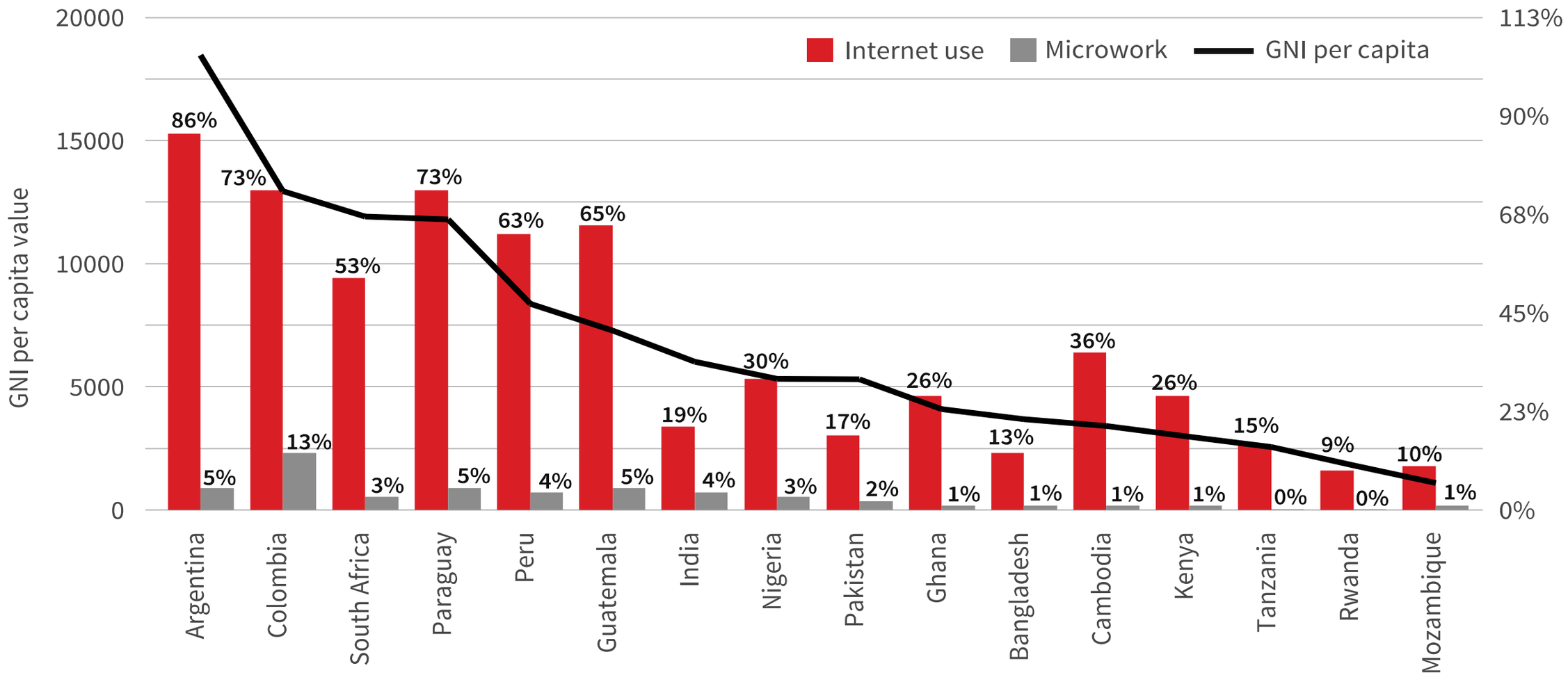

Figure 1: Mobile phone ownership, Internet use and GNI per capita

Source: Research ICT Africa, After Access Survey, 2017; World Bank, 2018

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Micro-workers across tasks

- Despite the hype generated around the digital economy and its potential to create employment, 72% of Africans do not use the Internet and are therefore excluded from the digital economy and online work or microwork.
- The adoption of microwork or online work in Africa is minimal—only 2% of the population in the surveyed countries are online workers, representing 3%of the economically active population.
- Much of this work is manual work, such as domestic work, data-entry or e-hailing, which is simply sourced online and not the kind of online work understood in the context of microwork– namely, piecemeal online work that is distributed among geographically untethered freelancers.

Driving for a ride hailing app, Uber, Taxify	5%
Shopping for delivering household items	10%
Performing tasks online, completing surveys or doing data entry	25%
Cleaning someone or doing laundry	22%
Other	15%

Source: RIA After Access Survey 2018

Low Internet use limiting Africa's beneficiation from the digital economy

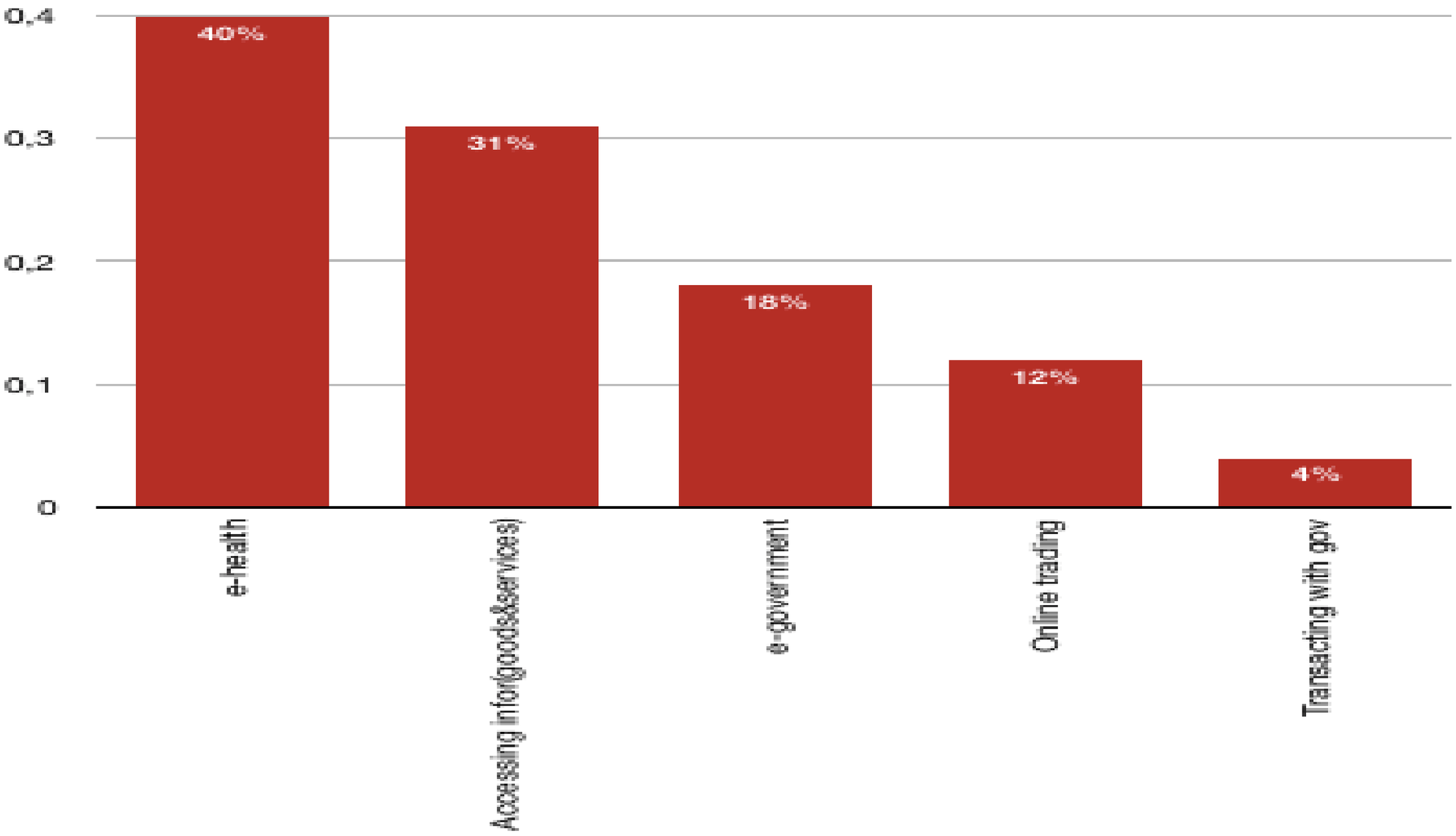

Figure 20: financial inclusion in African countries

Source: RIA After Access Survey data, 2017

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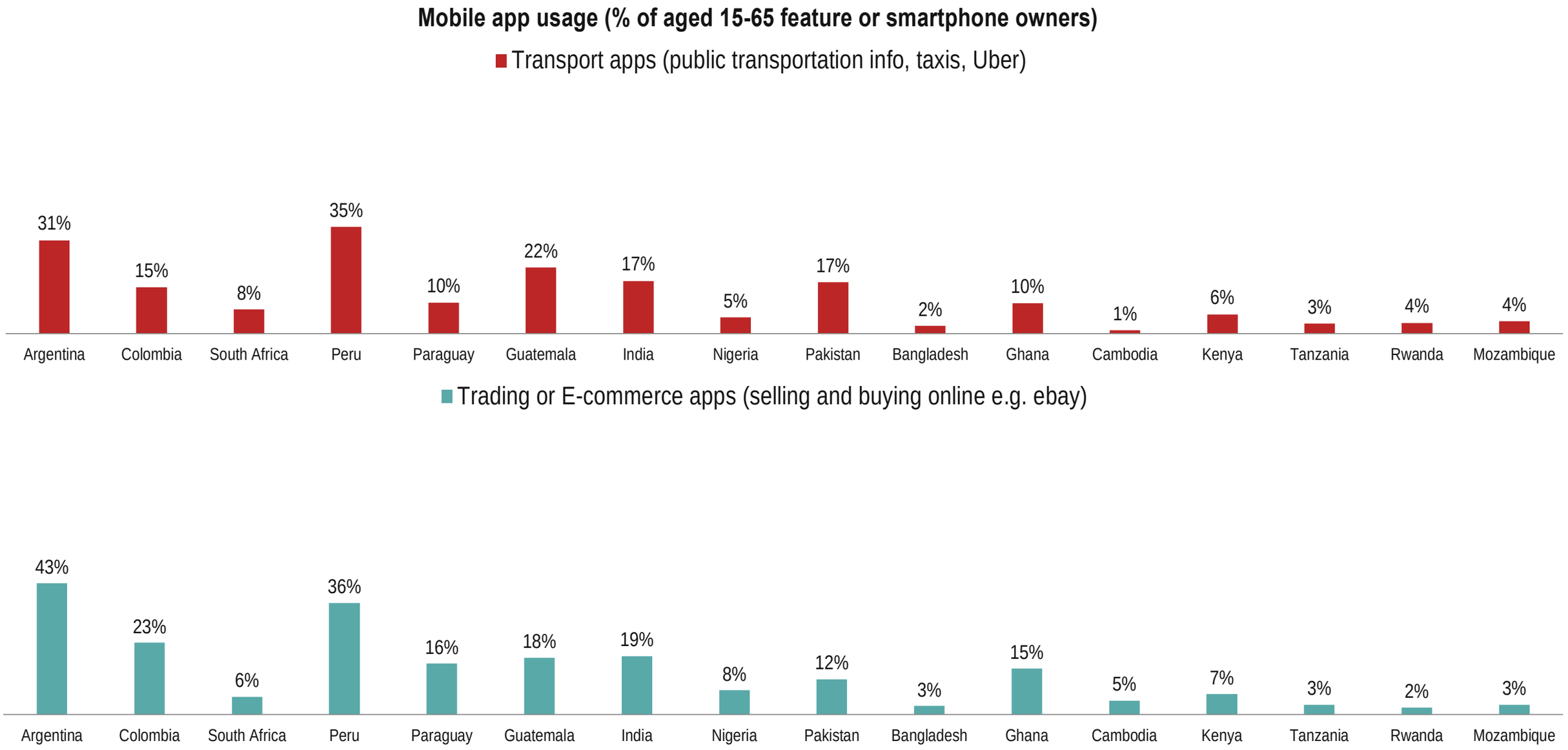
Use of trading & transport apps: Best performance from Latin American countries. Ghana outlier (good performance) in Africa



Q: Are you using these types of Mobile apps on your phone?

Base	Argentina	Colombia	South Africa	Peru	Paraguay	Guatemala	India	Nigeria	Pakistan	Bangladesh	Ghana	Cambodia	Kenya	Tanzania	Rwanda	Mozambique
Feature or smartphone owners	982	1,020	1,552	972	809	846	1,397	795	571	936	458	878	1,074	789	660	667

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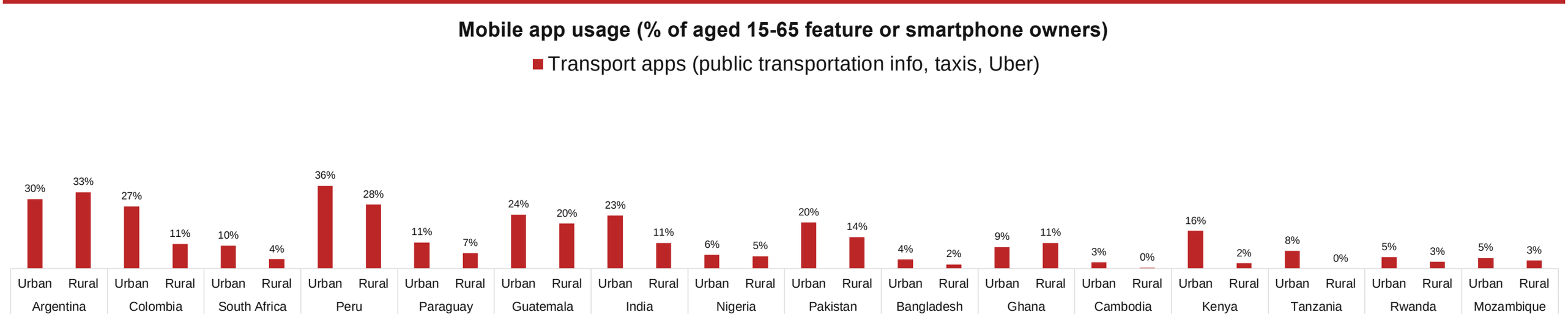
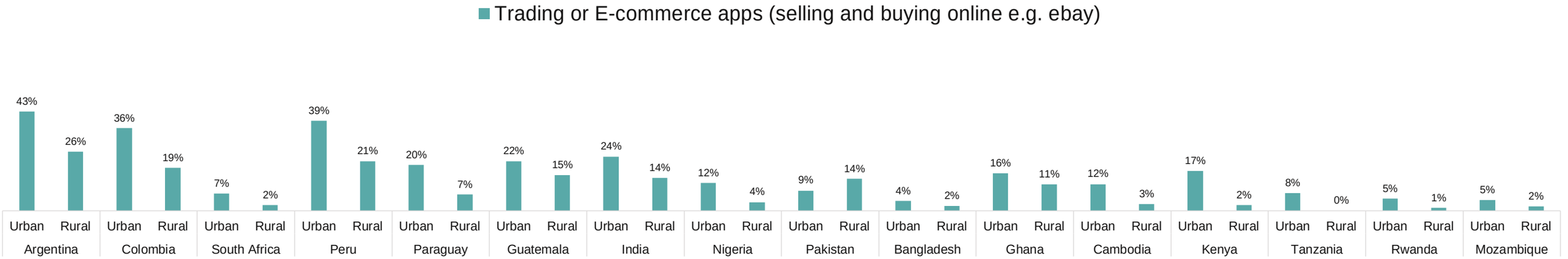
Overall, higher use of transport and trading apps in urban areas





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	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Feature or smartphone owners	954	28	755	265	919	633	825	147	578	231	362	484	711	686	575	220	272	299	417	519	332	126	465	413	678	396	555	234	443	217	498	169

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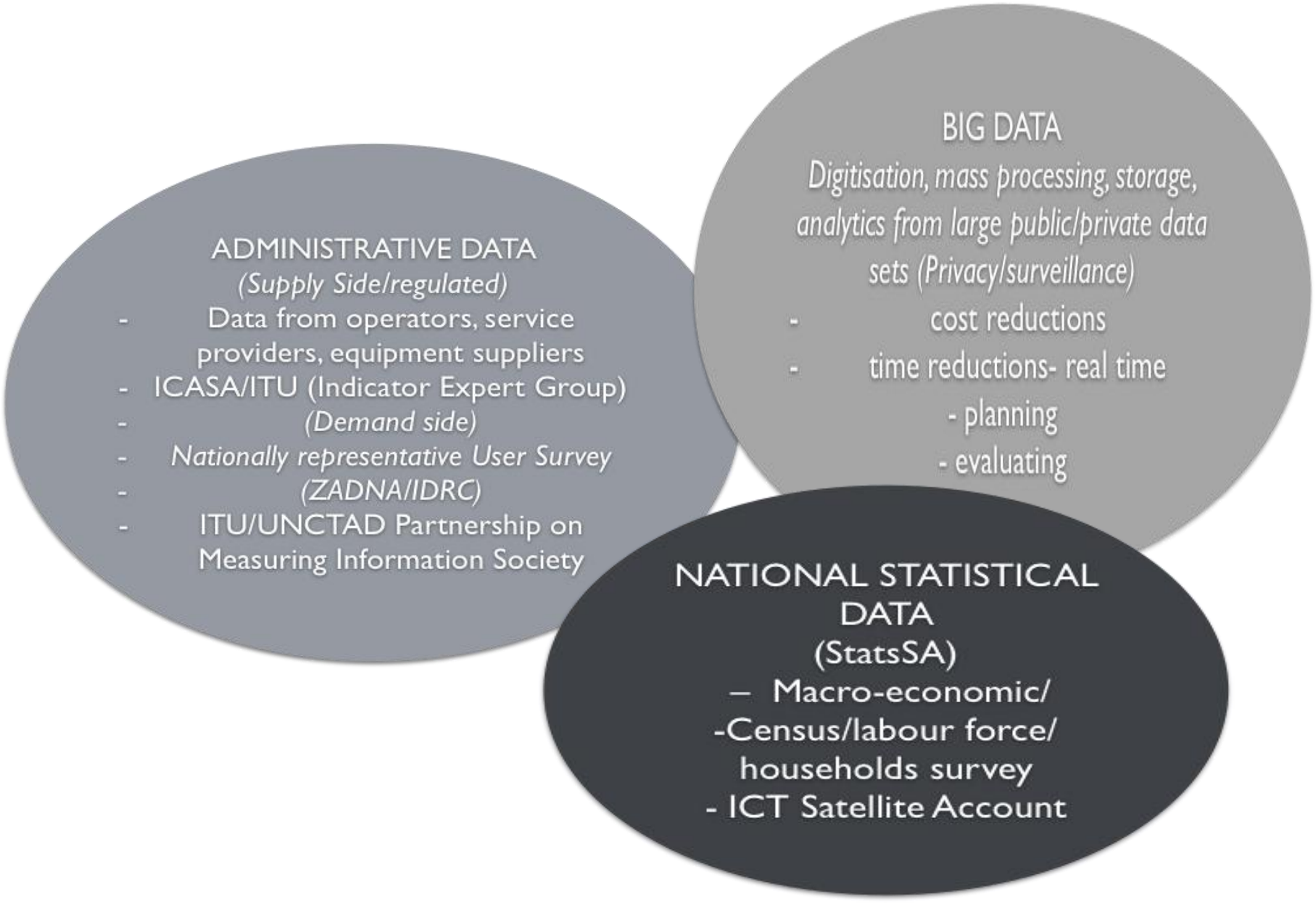
Building public good data



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Global cooperation to realise global public goods at national level

- Governance challenges of limiting harms and mitigating risks associated with increasingly complex globalised economy, requires dynamic and adaptive responses to tendencies towards market concentration, rights violating political and commercial surveillance and control, that are compounding digital inequality.
- Require new kinds of data and digital indicators to provide decision makers with the correct evidence for appropriate policy intervention and governance.
- Need to mobilise global resources (global digital tax/open data regime) to realise global public goods (public statistics/data) at national level.

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