Measurement of the digital economy

Presentation by

Research ICT Africa

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

Digital technologies have been identified as crucial ingredients to achieving some of the sustainable development goals

They play acritical role in accelerating access to knowledge, economic growth and job creation, equality and create new opportunities for innovation

They are also critical to facilitating international trade by accelerating communication and facilitation of payments providing access to communication

President Uhuru Kenyatta- "Digital technologies are critical in enabling Africa to achieve its objective of promoting intra-Africa trade"

While digital advancement is commonly linked with growth and economic integration, the process is not automatic, technological advancement are not a guarantee of greater trade and economic integration

Understanding who factors that limit participation on the digital economy is crucial to policy makers. Hence the need for unbiased and up to date statistics

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We do not have the official data to know our progress

ICT indicators related to other indices' rankings								
	Rankings					ICT indicators		
	ADI	3i	IDI	NRI	MCI score	1GB Prepaid data USD	Active SIM cards per 100	Internet subscribers per 100
Ghana	26	60	116	102	52,7	2.24	128	35
Kenya	30	57	138	86	51	2.94	82	26
Lesotho			133	115	44	5,07	107	27
Mozambique	45	80	150	123	31	2,01	40	18
Nigeria	13	56	143	119	45,9	2.80	83	26
Rwanda	21	76	153	80	40	2.39	75	20
Senegal	47	69	142	107	37,3	6,35	99	26
South Africa	22	39	92	65	59,9	7,84	162	54
Tanzania	39	67	165	126	39,4	2.25	72	13
Uganda	32	75	152	121	36,5	2.77	55	22
Sources	A4AI, 2017	EIU, 2018	ITU, 2017	WEF, 2016	GSMA, 2016	RAMP Index (Q3 2017)	ITU, 2016a	ITU, 2016a

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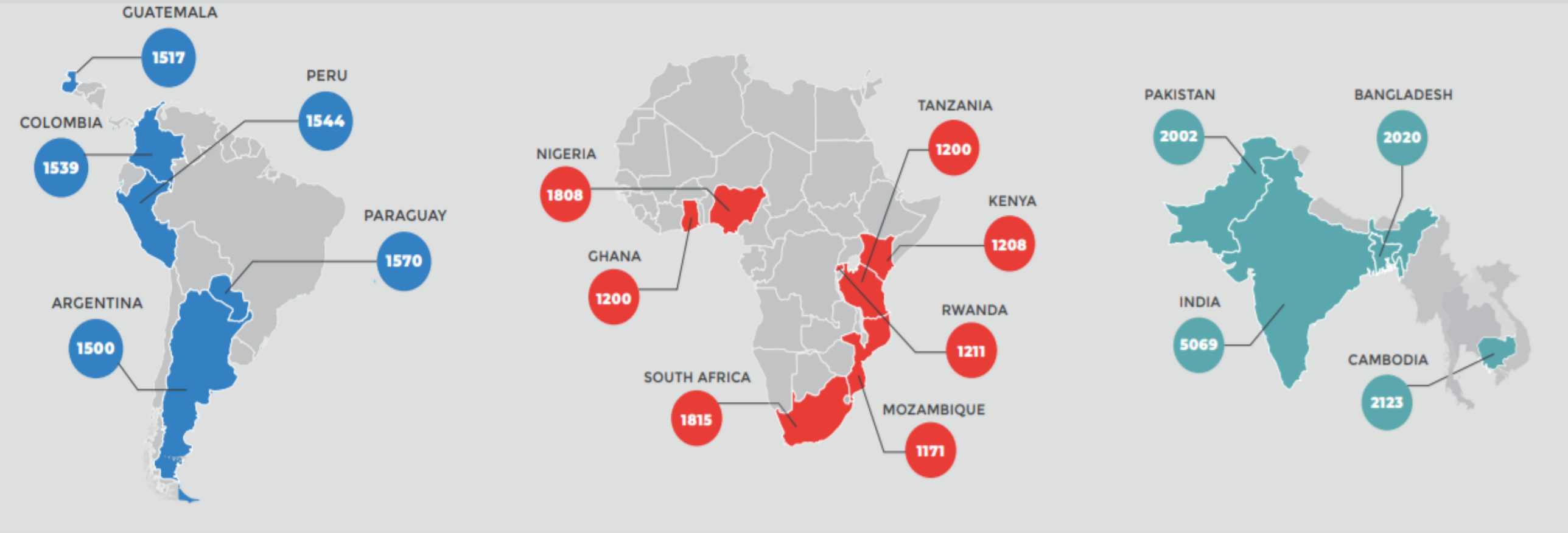
Nationally representative surveys of ICT access and use by households & individuals aged 15-65; In 16 developing countries; Data represents 30% of the global population; 28,900 face-to-face interviews; +/-3 margin of error



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Mobile phone ownership, Internet use tracks GNI per capita

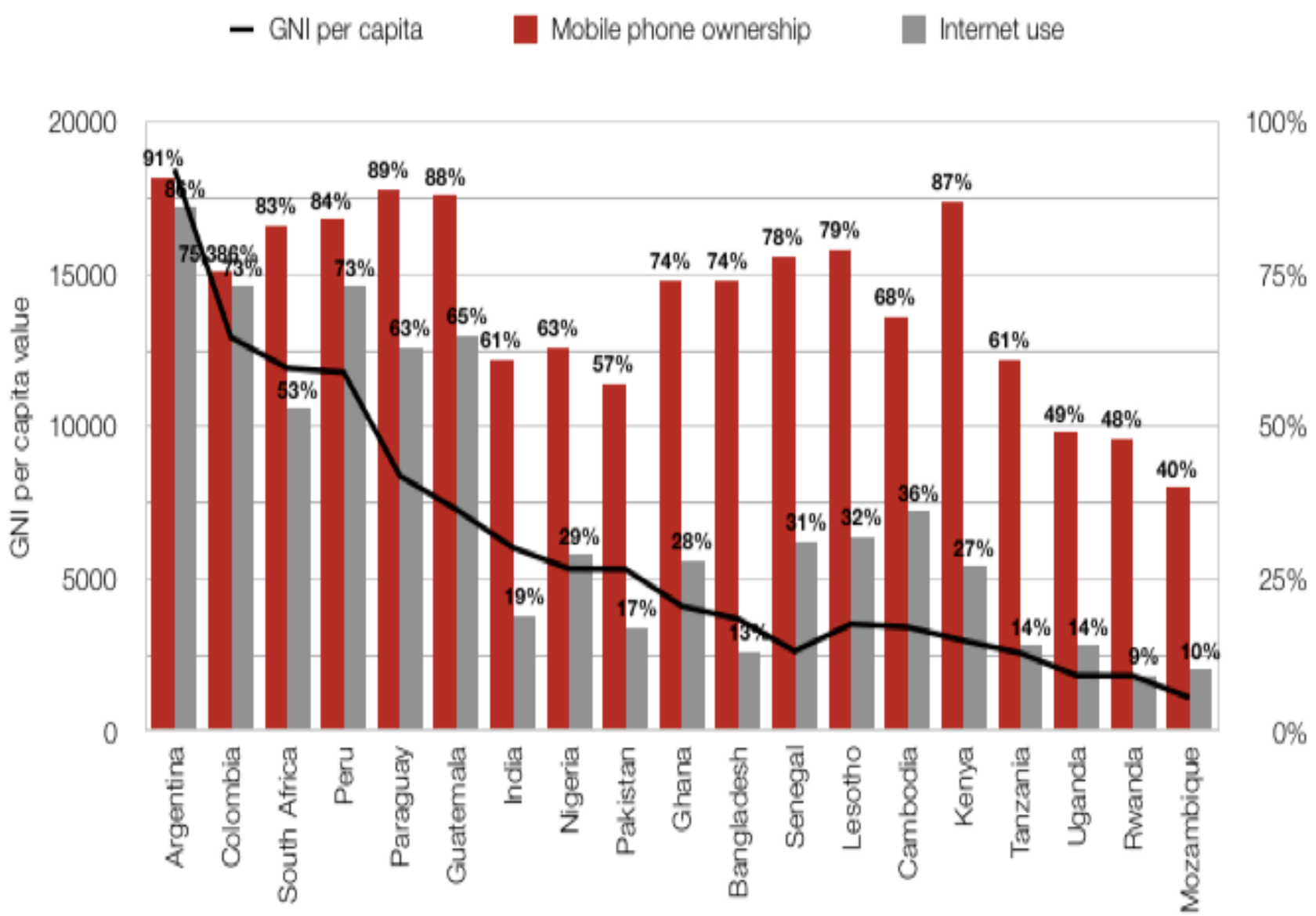


Figure 1: Mobile phone and Internet penetration overlaid on GNI per capita

Source: RIA After Access Survey data, 2017

- Internet penetration aligned with GNI per capita
- Majority of African countries are still below the 20% Internet penetration required to benefit from network effects
- Rwanda performs better in many indicators such as ADI has the lowest Internet penetration followed by Tanzania and Uganda

Gender gap in Internet use also track GNI

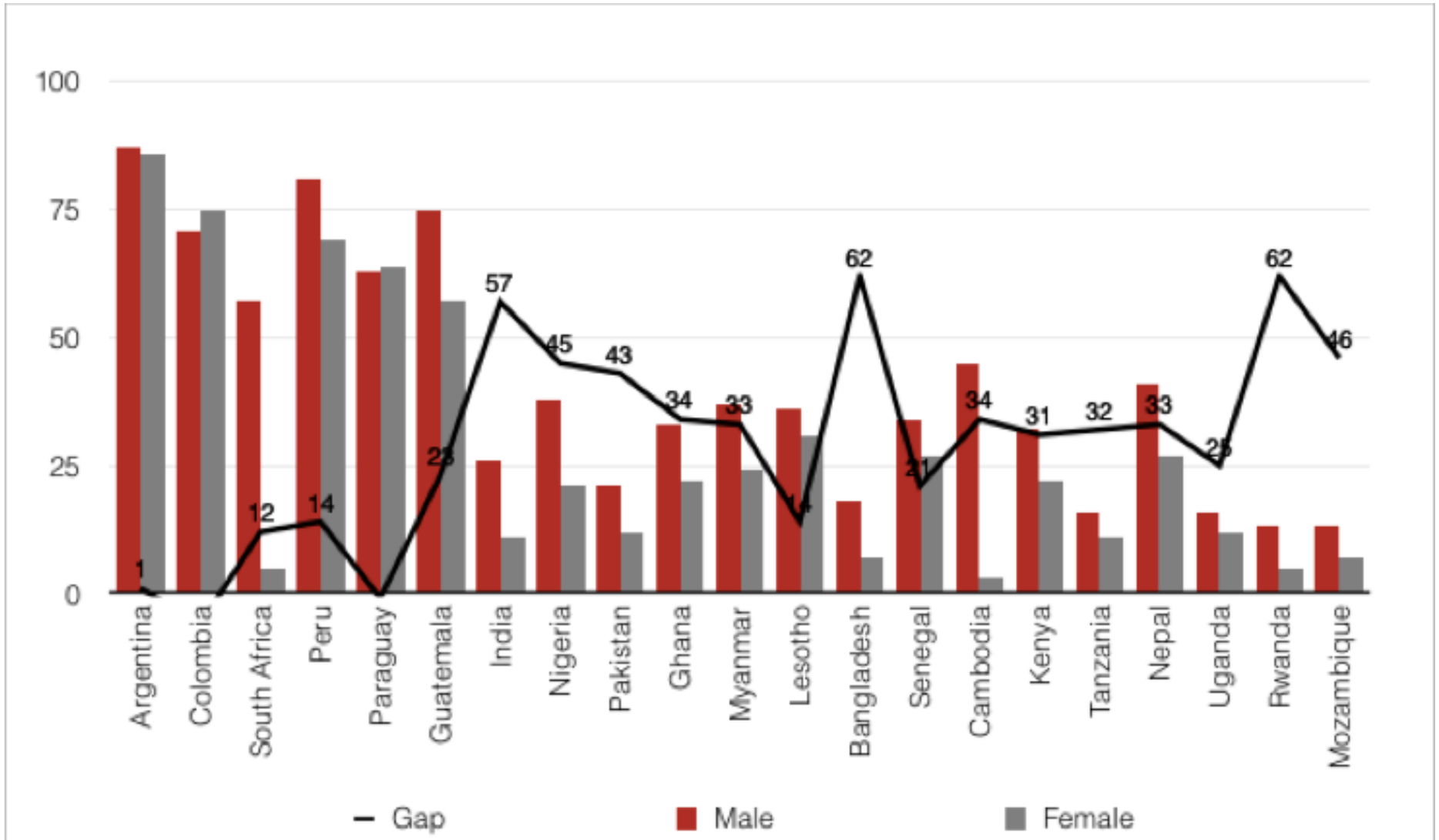


Figure 2: Gender disparity in Internet use in African and the Global South

Source: RIA After Access Survey data, 2017

Notes: Internet gender gap for African countries is measured based on 15 years+ while Global South countries only consider age 15-65

- As markets become saturate greater parity in ownership
- Smaller gap than Internet
- But other cultural, demographic, urbanisation, factors at play

Internet divide greater between urban and rural areas

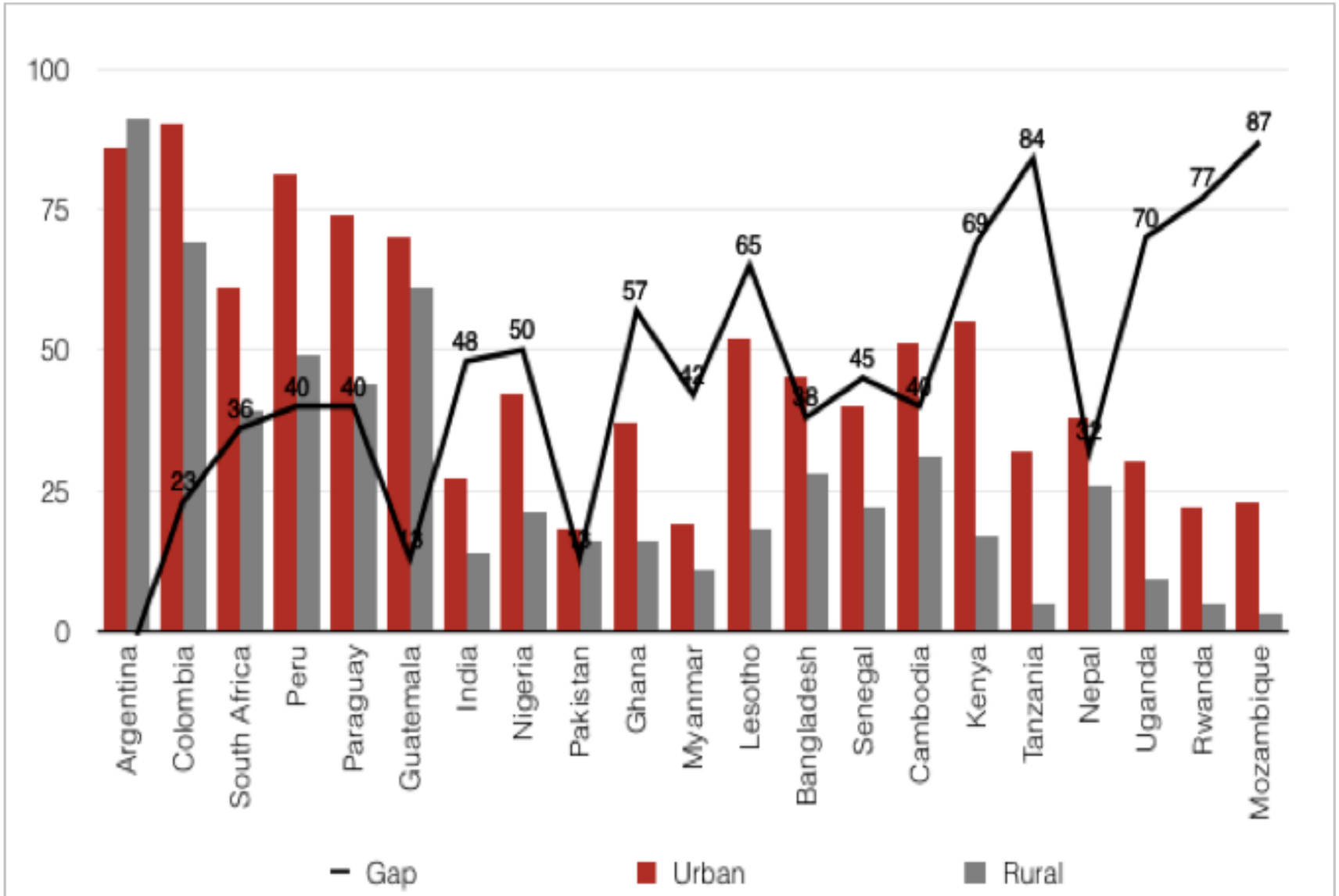


Figure 3: Urban-Rural disparity in Internet use in African and the Global South

Source: RIA After Access Survey data, 2017

Notes: Internet gender gap for African countries is measured based on 15 years+ while Global South countries only consider age 15-65

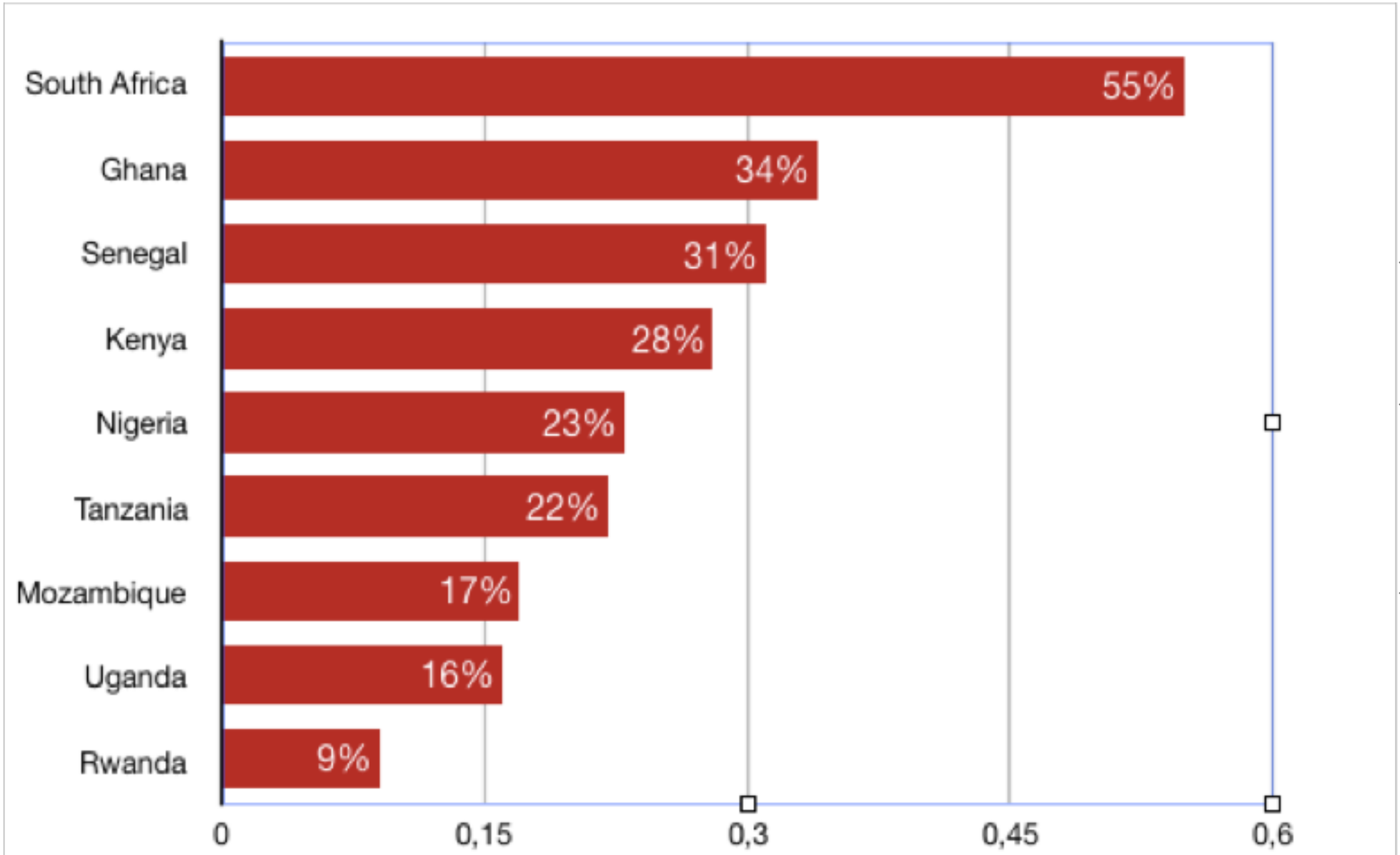
- Less developed countries have higher urban-rural divides
- Lack of electricity and coverage still a problem in rural areas.
- Urban dwellers are more likely to benefit from the digital economy than those in urban areas

Gender gap in Internet use also track GNI

Table 4: Aggregate Internet use and Mobile phone ownership					
	Surveyed countries	**Male**	**Female**	**Urban**	**Rural**
Internet	28%	33%	23%	44%	17%
Mobile phone	66%	72%	61%	79%	58%

- The recent figures by ITU indicate that 24% of African's use the Internet and 9% of African households have a computer
- The After Access survey shows that only 3% of households have a computer while 5% have access to the Internet.
- Aggregate Internet penetration among surveyed countries stands at 28% and 66% own a mobile phone

Smartphone penetration aligned with Internet penetration



- Smartphones are the major drivers of Internet in Africa
- Countries that have high GNI per capita have high smartphone penetration
- Rwanda has the least smartphone penetration and Internet use

Edit Chart Data

Figure 14: Smartphone penetration in Afri

Source: RIA After Access Survey data, 2017

Major barrier to adoption in rest of Africa is lack of power

Table 6: Barriers to Internet use					
	No access devices	Don't know what the Internet is	Don't know how to use the Internet	No interest/not useful	Too expensive
Ghana	22%	43%	14%	9%	2%
Kenya	21%	27%	12%	26%	4%
Lesotho	13%	53%	13%	13%	1%
Mozambique	76%		14%	3%	1%
Nigeria	13%	40%	22%	10%	4%
Rwanda	42%	9%	3%	4%	33%
Senegal	16%	50%	13%	9%	1%
South Africa	36%		9%	16%	15%
Tanzania	64%	1%	13%	15%	2%
Uganda	51%		23%	12%	4%

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

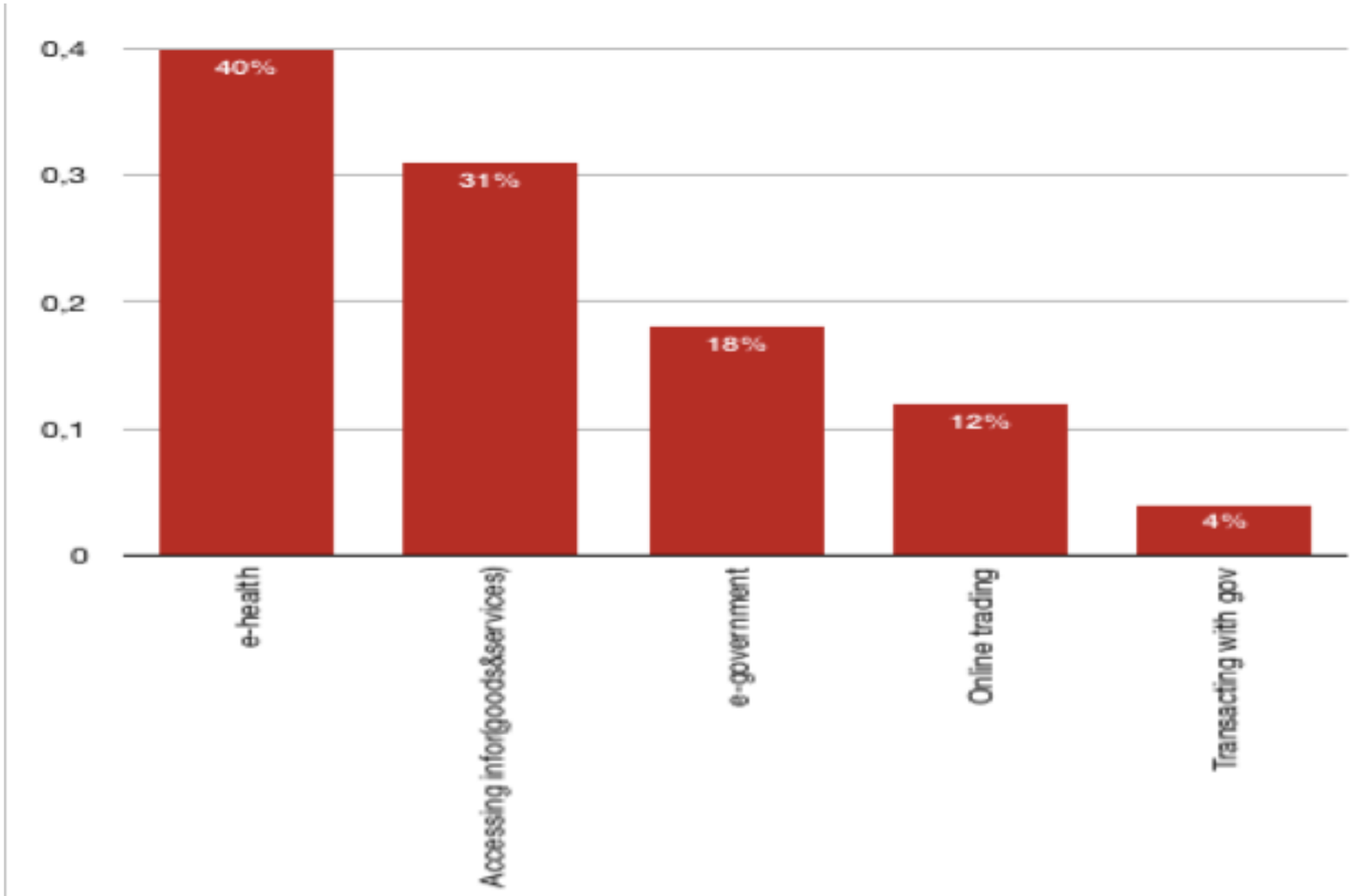


Figure 20: financial inclusion in African countries

Source: RIA After Access Survey data, 2017

- The low levels of Internet use due to unaffordability of devices and services and digital illiteracy continue to hamper Africa's potential in the digital economy
- Few Africans involved in the digital economy
- Government have not yet taken advantage of the digital economy
- Lack of skills among the public sector employee derailing Africa's potential

Mobile money increasing financial inclusion in Africa

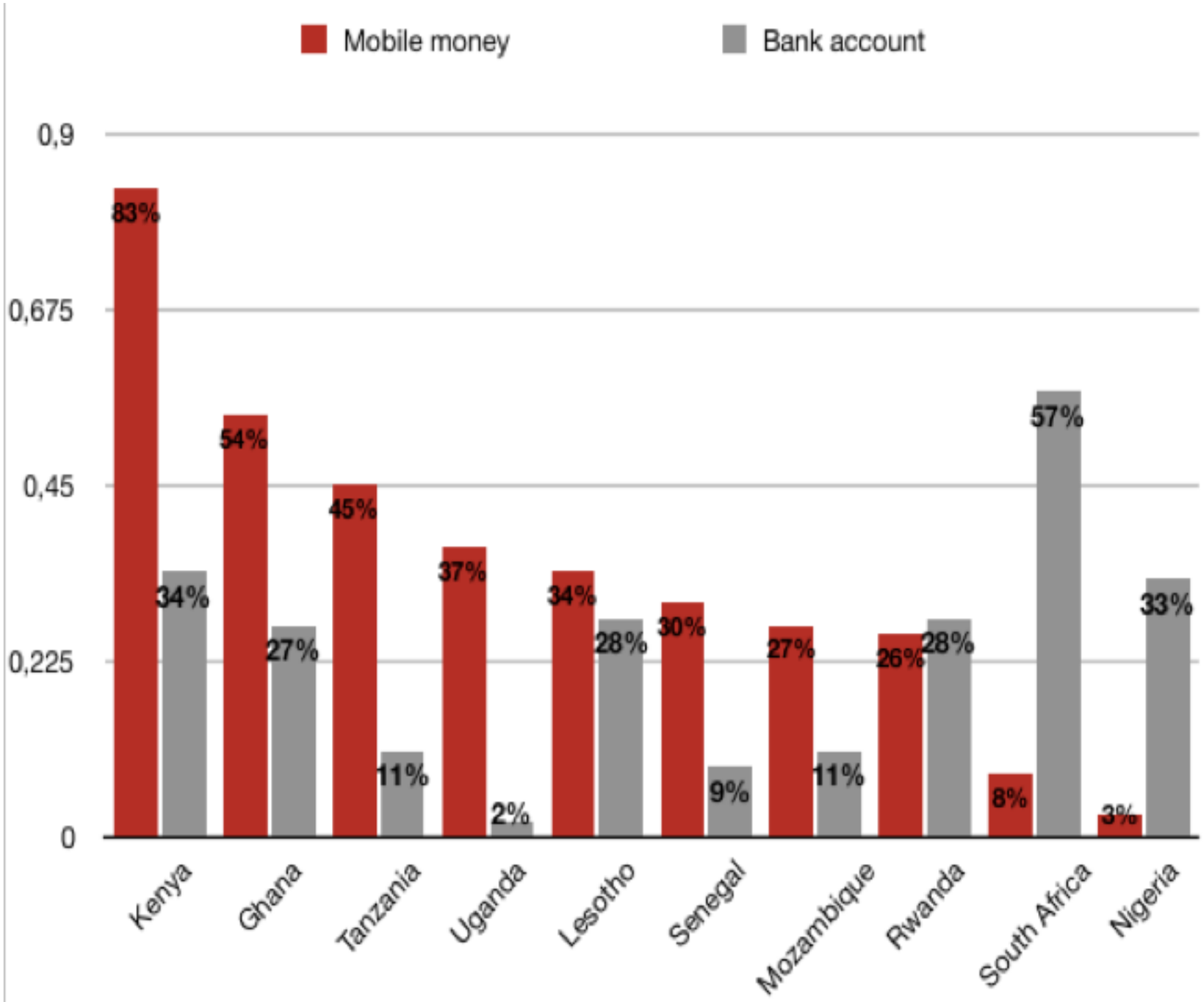


Figure 19: Mobile money service and bank account ownership in Africa

Source: RIA After Access Survey data, 2017

- Mobile money platforms which started in Kenya had a positive effect on financial inclusion
- Giving the poor, who were left out by the formal financial banks, a platform to send/receive money, make payments and book flights
- The mobile money however remains common in Kenya and other East African countries
- Regulatory policies affecting growth of mobile money in other countries such as Nigeria

Financial inclusion

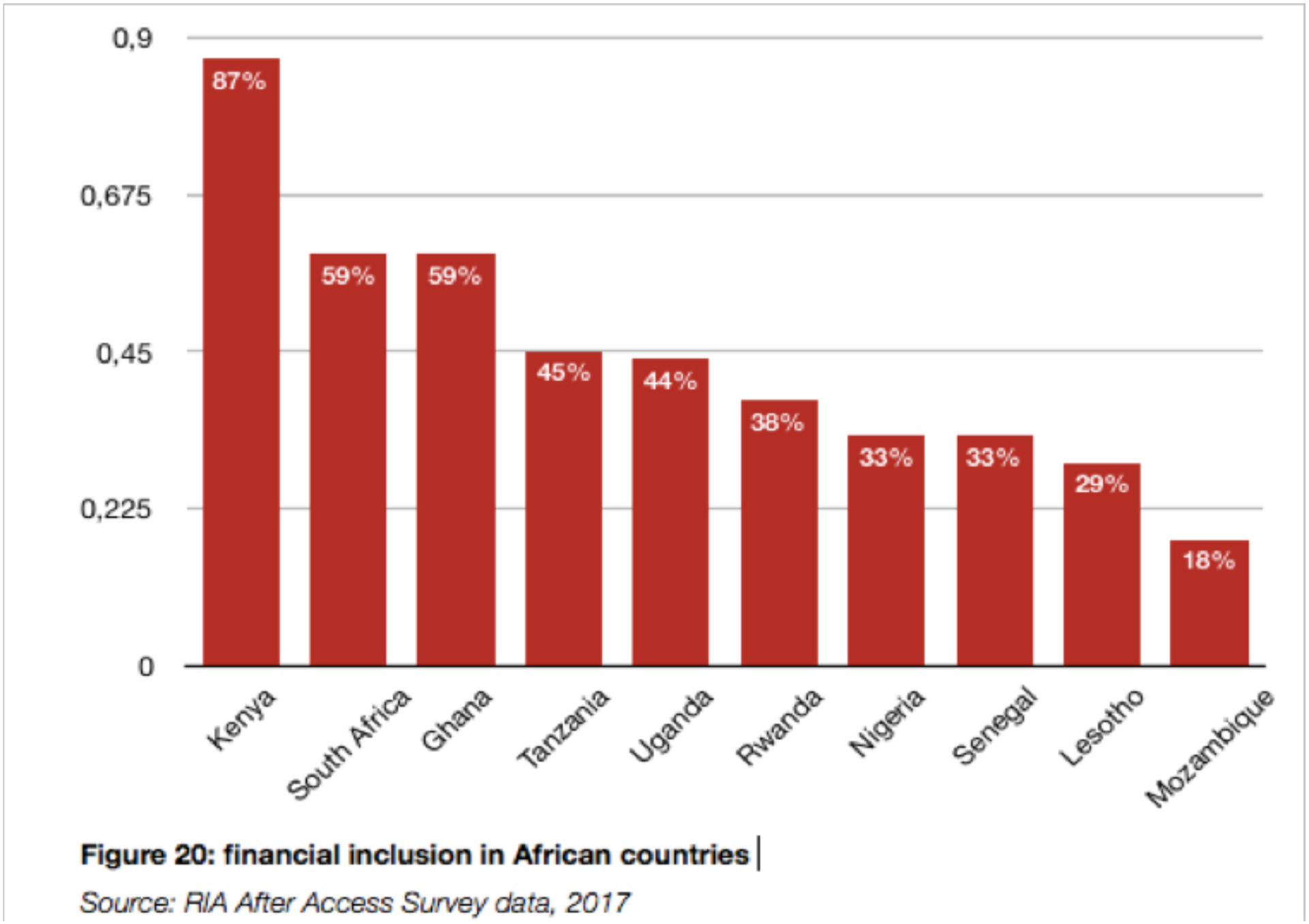
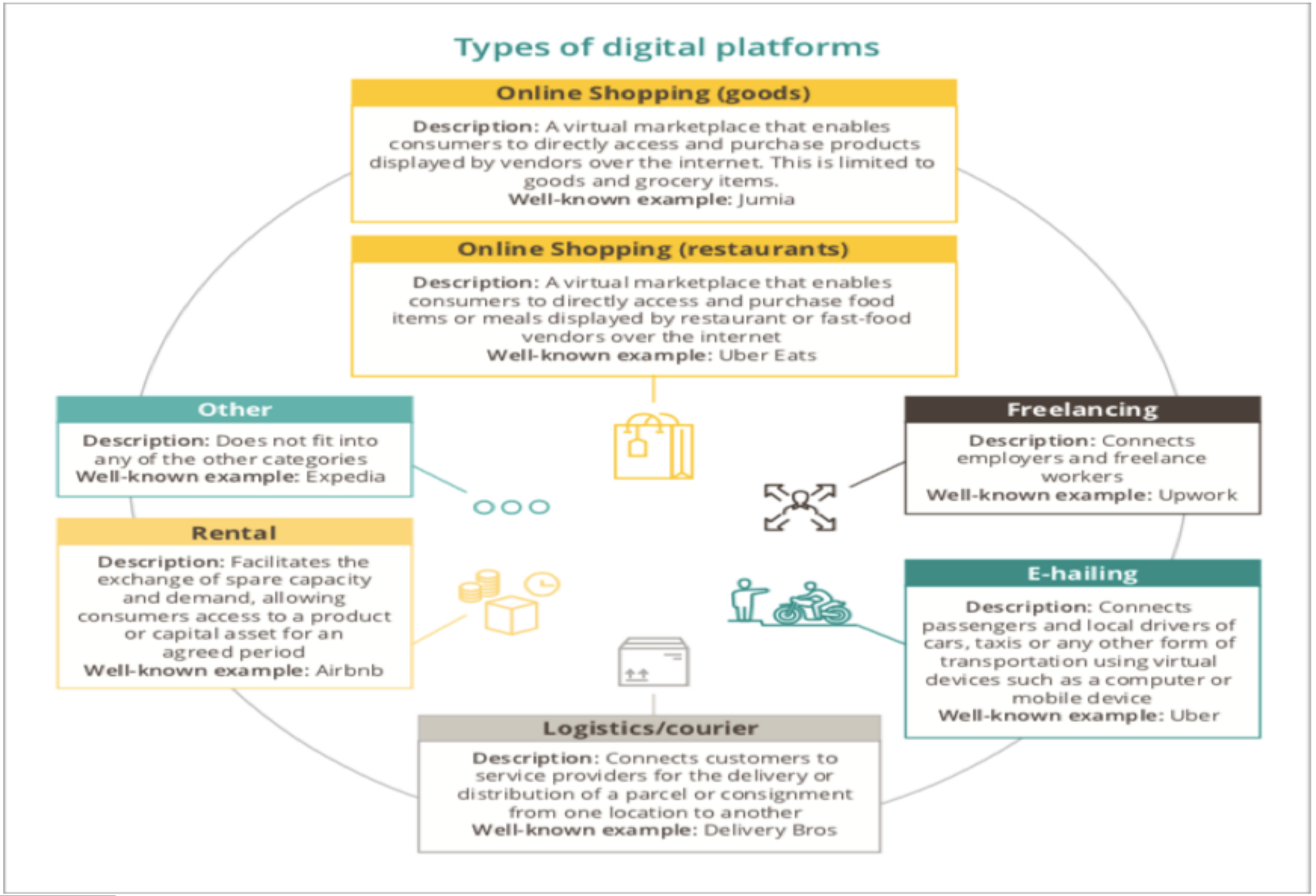


Figure 20: financial inclusion in African countries

Source: RIA After Access Survey data, 2017

Digital work in Africa



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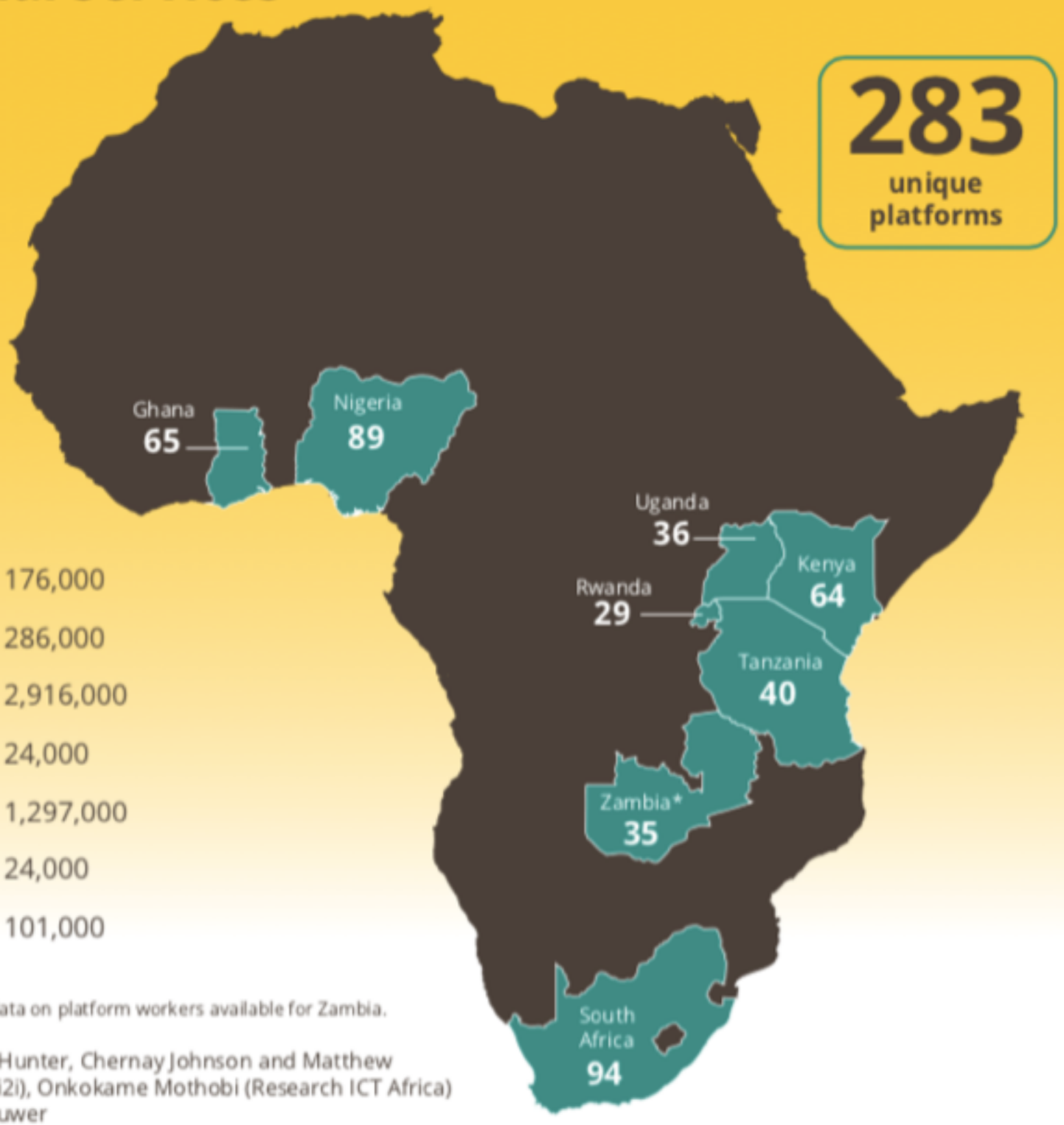
African digital platforms and the future of financial services

4.8 million platform workers



Ghana:	176,000
Kenya:	286,000
Nigeria:	2,916,000
Rwanda:	24,000
South Africa:	1,297,000
Tanzania:	24,000
Uganda:	101,000

*No demand-side data on platform workers available for Zambia.

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Design: Lisa Bruwer

Sources: i2i, African Digital Platforms database (2018); Research ICT Africa, After Access Survey (2017)

- Research ICT Africa in collaboration with Cenfri i2i mapped the supply side data collected by i2i with the demand side data collected by RIA
- The study indicate that there are 283 unique digital platforms in seven African countries
- Creating jobs for only 2% of the economically active residents of these countries

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Types of digital work in Africa

Table 10: Online work activities	
Country	**Observation**
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%

Micro-workers among Internet users

Table 8: Micro-workers in Africa				
Country	**Microwork (%)**	**Male (%)**	**Female (%)**	**Gender gap (%)**
Ghana	1,99	1,93	2,08	-7
Kenya	3,36	2,99	3,79	-26
Mozambique	7,90	10,81	3,34	69
Nigeria	7,63	6,26	10,21	-63
Rwanda	3,74	4,25	2,64	37
South Africa	6,48	7,45	5,56	25
Tanzania	0,56	0,22	1,00	-355
Uganda	3.04	3,27	2,74	16
Senegal	0,54	0,91	0	100%

Income dependency on digital work

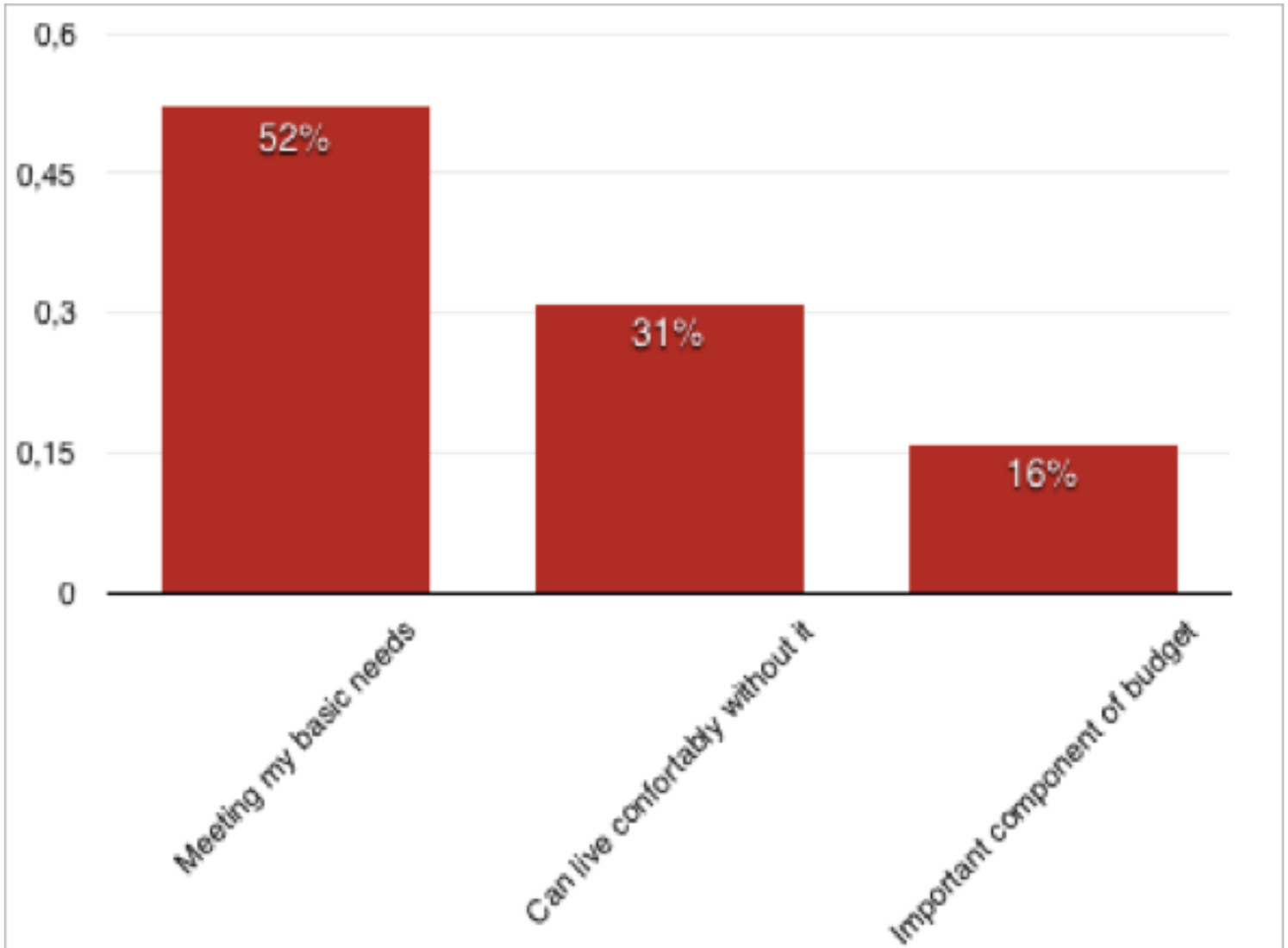


Figure 25: Importance of income earned from online services

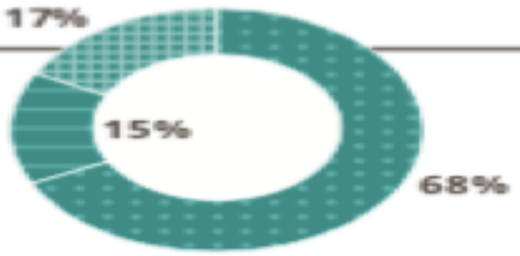
Source: Research ICT Africa beyond access survey, 2017.

- Majority of platforms workers depend on income generated from online work

Insight: platform workers evenly split across gender, but with significantly different characteristics

The income that I generate through the platform is...

- Essential for meeting basic needs
- Important budget component
- Nice to have, can live without



The platform worker

54% Male

Most common platform used: **Freelance**

Most common level of education **Tertiary (Bachelors)**

72% 14% 37%

46% Female

Most common platform used: **Online shopping**

Most common level of education **Secondary**

81% 20% 67%

The non-platform worker

Most common level of education **Secondary**

41% 19% 29%

Most common level of education **Secondary**

30% 17% 22%

% with access to account | % with access to mobile money | % owning a smartphone

In partnership with

Insight2 impact

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Conclusions

While there is a huge potential for digital impact in Africa, the foundations for digital economy need to be put in place.

The 2017 Research ICT Africa After Access Survey shows that Internet penetration in Africa is very low (28%) for the continent to fully benefit from the digital economy.

Other than focusing on developing and rolling infrastructure, the findings of 2017 RIA After Access Survey show that it is critical for policy makers to develop policies which aim at improving micro-economic factors such as affordability, digital skills, awareness and education.

In Africa, where majority of people use multiple SIM cards and devices it is impossible to get unbiased estimates from supply side indicators

Supply-side indicators such as the ADI, NRI and MCI which base on supply side measurement are more likely to be misleading and therefore policy makers should invest in demand-side indicators to get the up to date and unbiased estimates on Africa's readiness to participate in the digital economy .

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