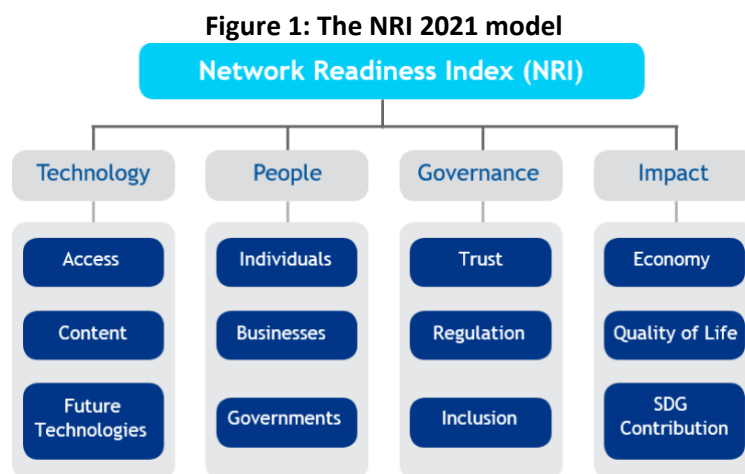


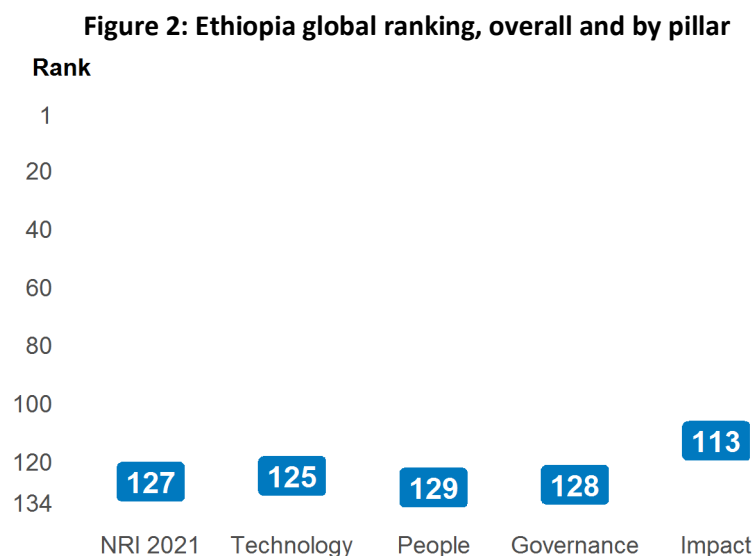
Network Readiness Index 2021 Ethiopia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2021 the NRI Report maps the network-based readiness landscape of 130 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 60 variables.



Global NRI position of Ethiopia

Ethiopia ranks 127th out of the 130 economies included in the NRI 2021 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ethiopia relate to Economy, Quality of Life and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Individuals and Trust sub-pillars.

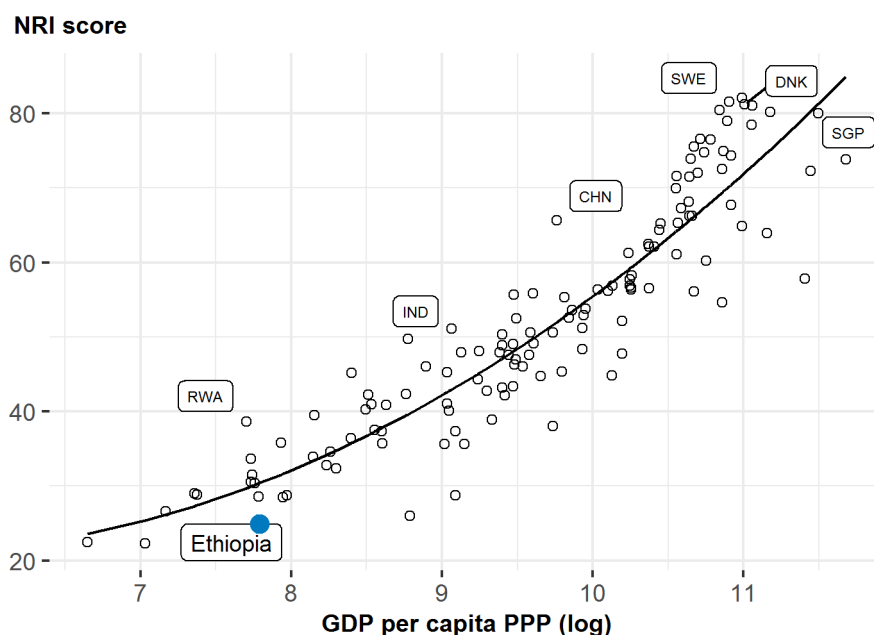
Table 1: Ethiopia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	88	Content	126
Quality of Life	98	Inclusion	126
Governments	107	SDG Contribution	127
Future Technologies	116	Regulation	128
Businesses	125	Individuals	129
Access	126	Trust	129

NRI score and income

Figure 3 shows the position of Ethiopia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ethiopia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: NLD = Netherlands (rank: 1), SWE = Sweden (2), DNK = Denmark (3), CHN = China (29), IND = India (67). USA is ranked 4th. Ethiopia belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries

Ethiopia is ranked 11th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: impact. At the sub-pillar level, it outperforms low-income countries in three of the twelve sub-pillars: Governments, Economy and Quality of Life.

Africa

Ethiopia is ranked 27th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: impact. With regard to sub-pillars, it outperforms the average in Africa in two of the twelve sub-pillars: Economy and Quality of Life.

Figure 4: Performance of Ethiopia against its income group and region, overall and by pillar

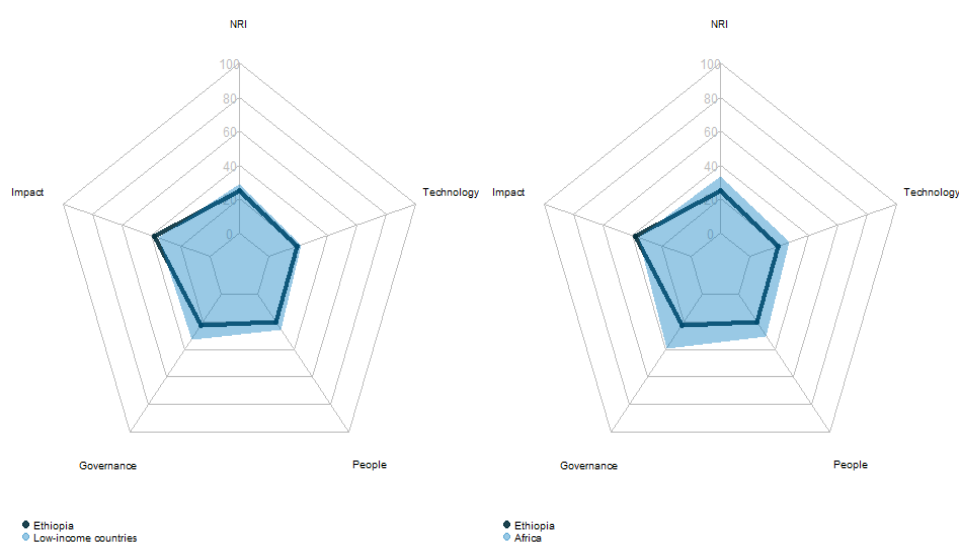


Table 2: Ethiopia scores vs. averages of its income group and region, overall and by pillar

Dimension	Ethiopia	Low-income countries	Africa
NRI	24.90	28.84	33.19
Technology	18.97	21.78	26.99
People	19.87	25.42	30.56
Governance	22.60	32.91	39.23
Impact	38.15	35.24	35.99

Strongest and weakest indicators

The indicators where Ethiopia performs particularly well include 4.1.4 Growth rate of GDP per person engaged, 4.2.3 Income inequality, and 1.1.4 SMS sent by population 15-69 (Table 3). By contrast, the economy's weakest indicators include 1.2.3 Internet domain registrations, 1.2.2 Wikipedia edits, 3.1.1 Secure Internet servers, and 3.2.2 ICT regulatory environment.

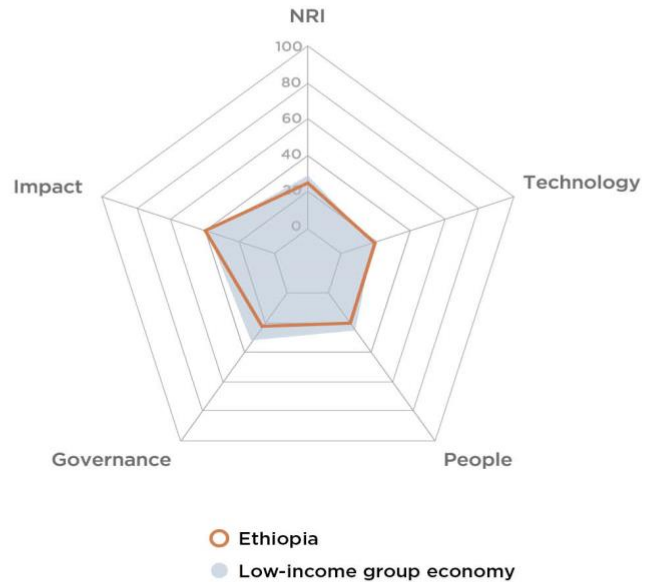
Table 3: Strongest and weakest indicators of Ethiopia

Strongest indicators	Rank	Weakest indicators	Rank
4.1.4 Growth rate of GDP per person engaged	4	3.1.3 Online access to financial account	119
4.2.3 Income inequality	50	1.3.4 Computer software spending	121
1.1.4 SMS sent by population 15-69	58	3.1.4 Internet shopping	121
2.3.4 R&D expenditure by governments and higher education	69	3.1.1 Secure Internet servers	128
4.1.1 High-tech and medium-high-tech manufacturing	76	3.2.2 ICT regulatory environment	128
1.2.5 AI scientific publications	77	1.2.2 Wikipedia edits	129
4.2.2 Freedom to make life choices	88	1.2.3 Internet domain registrations	130
2.3.3 Government promotion of investment in emerging technologies	90		
4.1.2 High-tech exports	92		
4.1.6 ICT services exports	95		

Ethiopia

Network Readiness Index Rank (out of 130) **127** Score **24.90**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	125	18.97
1st sub-pillar: Access	126	25.98
2nd sub-pillar: Content	126	12.90
3rd sub-pillar: Future Technologies	116	18.02
B. People pillar	129	19.87
1st sub-pillar: Individuals	129	15.39
2nd sub-pillar: Businesses	125	18.69
3rd sub-pillar: Governments	107	25.54
C. Governance pillar	128	22.60
1st sub-pillar: Trust	129	9.98
2nd sub-pillar: Regulation	128	29.41
3rd sub-pillar: Inclusion	126	28.40
D. Impact pillar	113	38.15
1st sub-pillar: Economy	88	31.32
2nd sub-pillar: Quality of Life	98	55.38
3rd sub-pillar: SDG Contribution	127	27.75



Network Readiness Index in detail

Indicator	Rank	Score
A. Technology pillar	125	18.97
1st sub-pillar: Access	126	25.98
1.1.1 Mobile tariffs	121	18.22
1.1.2 Handset prices	123	16.25
1.1.3 Households with internet access	108	17.79
1.1.4 SMS sent by population 15-69	58	77.47 ●
1.1.5 Population covered by at least a 3G mobile network	NA	NA
1.1.6 International Internet bandwidth	78	0.16
1.1.7 Internet access in schools	NA	NA
2nd sub-pillar: Content	126	12.90
1.2.1 GitHub commits	125	0.06
1.2.2 Wikipedia edits	129	0.00 ○
1.2.3 Internet domain registrations	*	* ○
1.2.4 Mobile apps development	125	31.06
1.2.5 AI scientific publications	77	33.37 ●
3rd sub-pillar: Future Technologies	116	18.02
1.3.1 Adoption of emerging technologies	111	25.79
1.3.2 Investment in emerging technologies	101	28.27
1.3.3 Robot density	NA	NA
1.3.4 Computer software spending	121	0.00 ○
B. People pillar	129	19.87
1st sub-pillar: Individuals	129	15.39
2.1.1 Active mobile broadband subscriptions	NA	NA
2.1.2 ICT skills	NA	NA
2.1.3 Use of virtual social networks	126	3.12
2.1.4 Tertiary enrollment	112	5.13
2.1.5 Adult literacy rate	99	37.93
2nd sub-pillar: Businesses	125	18.69
2.2.1 Firms with website	93	29.28
2.2.2 GERD financed by business enterprise	92	1.82
2.2.3 Professionals	117	5.39
2.2.4 Technicians and associate professionals	122	4.67
2.2.5 Annual investment in telecommunication services	101	70.98
2.2.6 GERD performed by business enterprise	87	0.00
3rd sub-pillar: Governments	107	25.54
2.3.1 Government online services	115	34.55
2.3.2 Publication and use of open data	80	15.90
2.3.3 Government promotion of investment in emerging tech	90	29.60
2.3.4 R&D expenditure by governments and higher education	69	22.11 ●

Indicator	Rank	Score
C. Governance pillar	128	22.60
1st sub-pillar: Trust	129	9.98
3.1.1 Secure Internet servers	128	13.47 ○
3.1.2 Cybersecurity	108	26.47
3.1.3 Online access to financial account	119	0.00 ○
3.1.4 Internet shopping	121	0.00 ○
2nd sub-pillar: Regulation	128	29.41
3.2.1 Regulatory quality	120	16.91
3.2.2 ICT regulatory environment	128	22.35 ○
3.2.3 Legal framework's adaptability to emerging technologies	94	24.93
3.2.4 E-commerce legislation	112	50.00
3.2.5 Privacy protection by law content	120	32.86
3rd sub-pillar: Inclusion	126	28.40
3.3.1 E-Participation	117	30.86
3.3.2 Socioeconomic gap in use of digital payments	120	2.03
3.3.3 Availability of local online content	111	30.50
3.3.4 Gender gap in Internet use	NA	NA
3.3.5 Rural gap in use of digital payments	98	50.20
D. Impact pillar	113	38.15
1st sub-pillar: Economy	88	31.32
4.1.1 High-tech and medium-high-tech manufacturing	76	15.22 ●
4.1.2 High-tech exports	92	7.97 ●
4.1.3 PCT patent applications	NA	NA
4.1.4 Growth rate of GDP per person engaged	4	90.42 ●
4.1.5 Prevalence of gig economy	94	29.51
4.1.6 ICT services exports	95	13.51 ●
2nd sub-pillar: Quality of Life	98	55.38
4.2.1 Happiness	107	29.38
4.2.2 Freedom to make life choices	88	66.80 ●
4.2.3 Income inequality	50	72.92 ●
4.2.4 Healthy life expectancy at birth	102	52.43
3rd sub-pillar: SDG Contribution	127	27.75
4.3.1 SDG 3: Good Health and Well-Being	125	18.03
4.3.2 SDG 4: Quality Education	NA	NA
4.3.3 Females employed with advanced degrees	121	0.54
4.3.4 SDG 7: Affordable and Clean Energy	124	34.19
4.3.5 SDG 11: Sustainable Cities and Communities	107	58.25

NOTE: * Indicates confidential data; ● a strength and ○ a weakness.

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