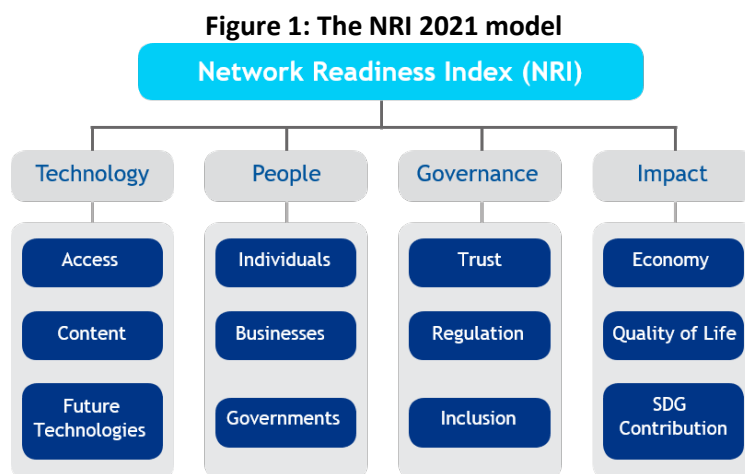


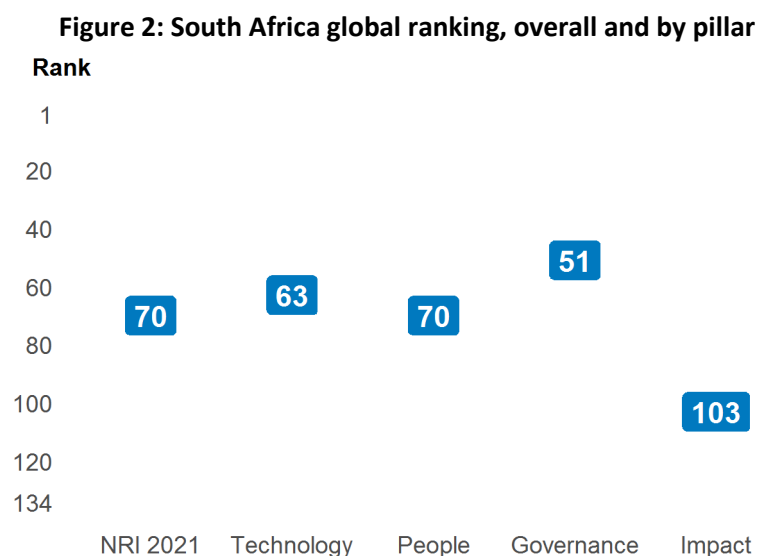
Network Readiness Index 2021 South Africa

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 South Africa

South Africa ranks 70th out of the 130 economies included in the NRI 2021 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of South Africa relate to Future Technologies, Regulation and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, SDG Contribution and Quality of Life sub-pillars.

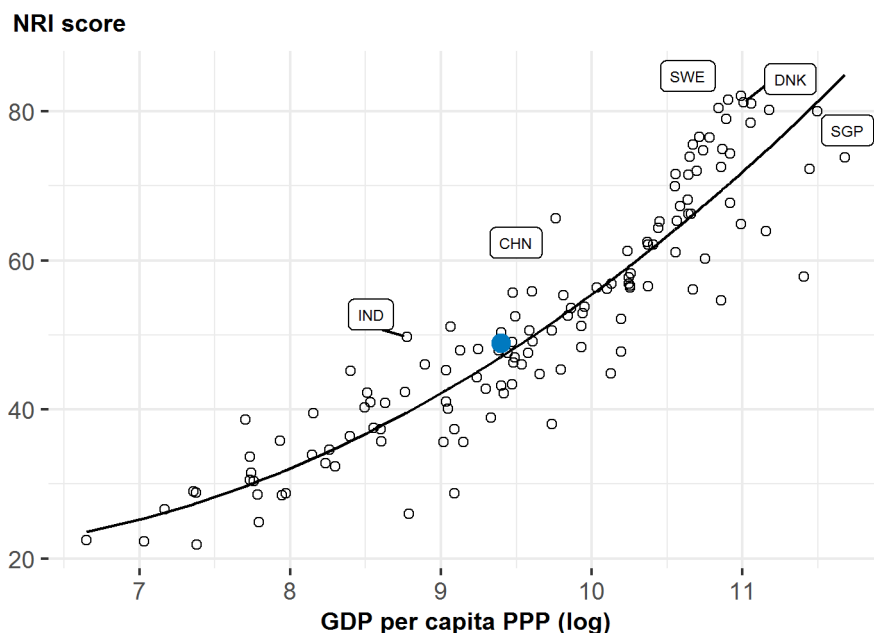
Table 1: South Africa rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	45	Content	69
Regulation	51	Businesses	70
Inclusion	51	Access	73
Trust	60	Individuals	85
Governments	62	SDG Contribution	86
Economy	67	Quality of Life	123

NRI score and income

Figure 3 shows the position of South Africa 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, South Africa is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given 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. South Africa belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Upper-middle-income countries

South Africa is ranked 19th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: technology and governance. At the sub-pillar level, it outperforms upper-middle-income countries in six of the twelve sub-pillars: Future Technologies, Governments, Trust, Regulation, Inclusion and Economy.

Africa

South Africa is ranked 1st within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

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

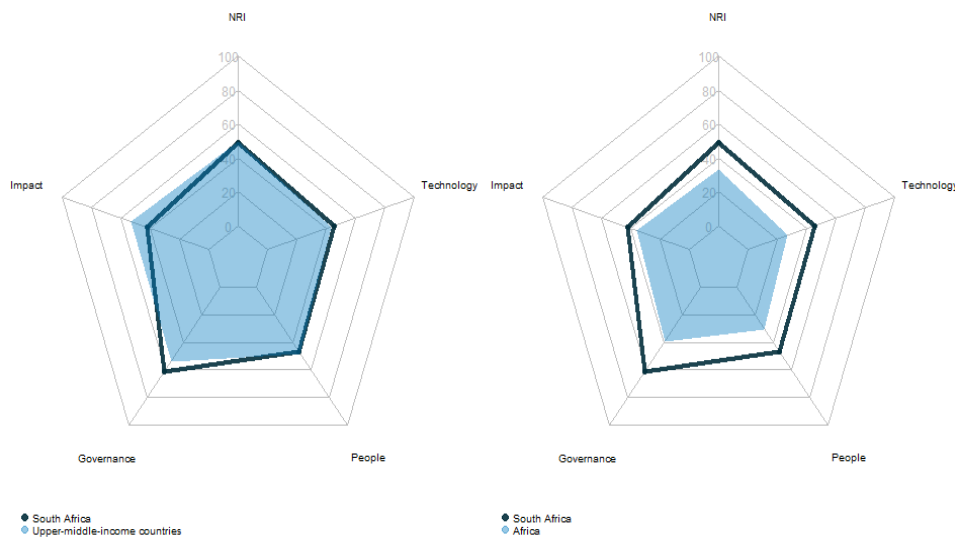


Table 2: South Africa scores vs. averages of its income group and region, overall and by pillar

Dimension	South Africa	Upper-middle-income countries	Africa
NRI	48.88	49.71	33.19
Technology	45.59	43.52	26.99
People	46.42	48.48	30.56
Governance	61.25	53.94	39.23
Impact	42.25	52.89	35.99

Strongest and weakest indicators

The indicators where South Africa performs particularly well include 3.2.4 E-commerce legislation, 2.1.1 Active mobile broadband subscriptions, and 1.1.4 SMS sent by population 15-69 (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.2.4 Healthy life expectancy at birth.

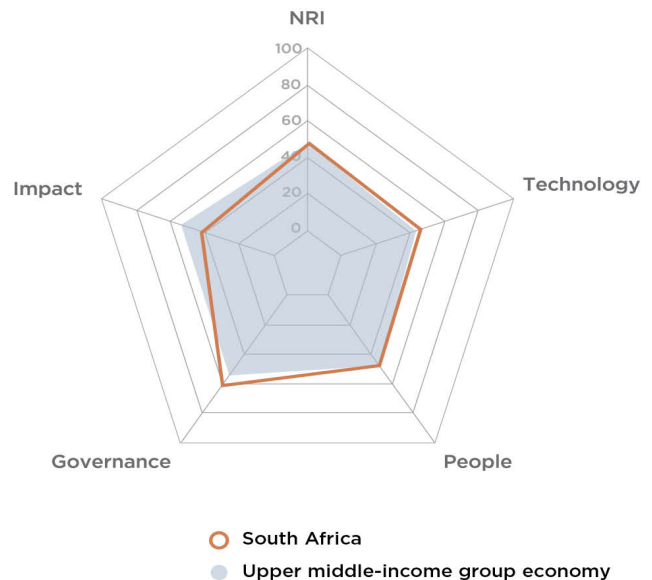
Table 3: Strongest and weakest indicators of South Africa

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.3 Professionals	96
2.1.1 Active mobile broadband subscriptions	19	2.1.3 Use of virtual social networks	99
1.1.4 SMS sent by population 15-69	22	4.2.4 Healthy life expectancy at birth	112
1.3.4 Computer software spending	24	4.3.4 SDG 7: Affordable and Clean Energy	115
1.1.6 International Internet bandwidth	25	4.2.3 Income inequality	117
2.2.5 Annual investment in telecommunication services	32		
1.3.1 Adoption of emerging technologies	33		
3.3.5 Rural gap in use of digital payments	34		
1.2.5 AI scientific publications	37		
3.1.1 Secure Internet servers	37		
1.3.2 Investment in emerging technologies	40		

South Africa

Network Readiness Index Rank (out of 130) **70** Score **48.88**

Pillar/sub-pillar	Rank	Score
A. Technology pillar	63	45.59
1st sub-pillar: Access	73	62.27
2nd sub-pillar: Content	69	35.32
3rd sub-pillar: Future Technologies	45	39.18
B. People pillar	70	46.42
1st sub-pillar: Individuals	85	56.41
2nd sub-pillar: Businesses	70	37.61
3rd sub-pillar: Governments	62	45.24
C. Governance pillar	51	61.25
1st sub-pillar: Trust	60	48.17
2nd sub-pillar: Regulation	51	68.50
3rd sub-pillar: Inclusion	51	67.08
D. Impact pillar	103	42.25
1st sub-pillar: Economy	67	36.32
2nd sub-pillar: Quality of Life	123	35.62
3rd sub-pillar: SDG Contribution	86	54.82



Network Readiness Index in detail

Indicator	Rank	Score
A. Technology pillar	63	45.59
1st sub-pillar: Access	73	62.27
1.1.1 Mobile tariffs	69	57.25
1.1.2 Handset prices	54	59.94
1.1.3 Households with internet access	83	63.28
1.1.4 SMS sent by population 15-69	22	83.76 ●
1.1.5 Population covered by at least a 3G mobile network	36	99.95
1.1.6 International Internet bandwidth	25	9.41 ●
1.1.7 Internet access in schools	NA	NA
2nd sub-pillar: Content	69	35.32
1.2.1 GitHub commits	57	5.01
1.2.2 Wikipedia edits	94	32.04
1.2.3 Internet domain registrations	*	*
1.2.4 Mobile apps development	67	75.07
1.2.5 AI scientific publications	37	57.94 ●
3rd sub-pillar: Future Technologies	45	39.18
1.3.1 Adoption of emerging technologies	33	64.29 ●
1.3.2 Investment in emerging technologies	40	51.83 ●
1.3.3 Robot density	35	7.77
1.3.4 Computer software spending	24	32.85 ●
B. People pillar	70	46.42
1st sub-pillar: Individuals	85	56.41
2.1.1 Active mobile broadband subscriptions	19	85.48 ●
2.1.2 ICT skills	NA	NA
2.1.3 Use of virtual social networks	99	40.64 ○
2.1.4 Tertiary enrollment	92	16.18
2.1.5 Adult literacy rate	68	83.35
2nd sub-pillar: Businesses	70	37.61
2.2.1 Firms with website	91	30.66
2.2.2 GERD financed by business enterprise	39	51.30
2.2.3 Professionals	96	15.43 ○
2.2.4 Technicians and associate professionals	58	37.33
2.2.5 Annual investment in telecommunication services	32	83.31 ●
2.2.6 GERD performed by business enterprise	46	7.64
3rd sub-pillar: Governments	62	45.24
2.3.1 Government online services	54	73.94
2.3.2 Publication and use of open data	46	34.25
2.3.3 Government promotion of investment in emerging tech	82	31.72
2.3.4 R&D expenditure by governments and higher education	45	41.05

Indicator	Rank	Score
C. Governance pillar	51	61.25
1st sub-pillar: Trust	60	48.17
3.1.1 Secure Internet servers	37	76.42 ●
3.1.2 Cybersecurity	66	78.08
3.1.3 Online access to financial account	64	28.13
3.1.4 Internet shopping	72	10.05
2nd sub-pillar: Regulation	51	68.50
3.2.1 Regulatory quality	60	45.38
3.2.2 ICT regulatory environment	73	80.39
3.2.3 Legal framework's adaptability to emerging technologies	41	51.13
3.2.4 E-commerce legislation	1	100.00 ●
3.2.5 Privacy protection by law content	67	65.62
3rd sub-pillar: Inclusion	51	67.08
3.3.1 E-Participation	56	74.07
3.3.2 Socioeconomic gap in use of digital payments	51	69.52
3.3.3 Availability of local online content	90	49.81
3.3.4 Gender gap in Internet use	NA	NA
3.3.5 Rural gap in use of digital payments	34	74.94 ●
D. Impact pillar	103	42.25
1st sub-pillar: Economy	67	36.32
4.1.1 High-tech and medium-high-tech manufacturing	60	24.50
4.1.2 High-tech exports	53	31.41
4.1.3 PCT patent applications	38	52.26
4.1.4 Growth rate of GDP per person engaged	57	60.70
4.1.5 Prevalence of gig economy	84	35.60
4.1.6 ICT services exports	96	13.44
2nd sub-pillar: Quality of Life	123	35.62
4.2.1 Happiness	96	37.78
4.2.2 Freedom to make life choices	96	64.81
4.2.3 Income inequality	117	0.00 ○
4.2.4 Healthy life expectancy at birth	112	39.90 ○
3rd sub-pillar: SDG Contribution	86	54.82
4.3.1 SDG 3: Good Health and Well-Being	71	67.21
4.3.2 SDG 4: Quality Education	NA	NA
4.3.3 Females employed with advanced degrees	63	36.47
4.3.4 SDG 7: Affordable and Clean Energy	115	47.84 ○
4.3.5 SDG 11: Sustainable Cities and Communities	97	67.74

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

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