# Network Readiness Index 2021 Mozambique

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.

Figure 1: The NRI 2021 model
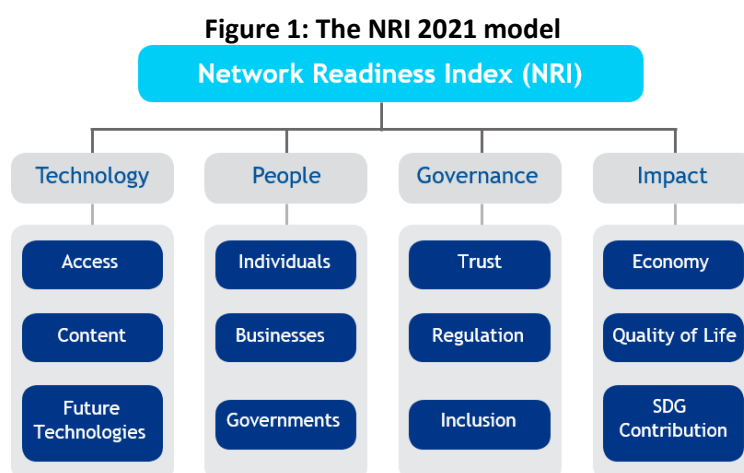
Global NRI position of Mozambique

Mozambique ranks 125th out of the 130 economies included in the NRI 2021 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Mozambique global ranking, overall and by pillar
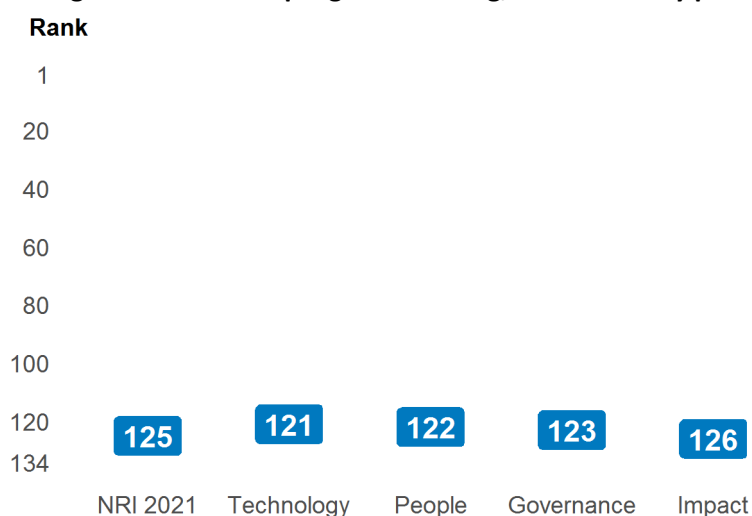
Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mozambique relate to Access, Trust and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Content and SDG Contribution sub-pillars.

Table 1: Mozambique rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	112	Businesses	122
Trust	112	Economy	122
Governments	114	Future Technologies	124
Regulation	114	Inclusion	124
Quality of Life	118	Content	125
Individuals	120	SDG Contribution	129

NRI score and income

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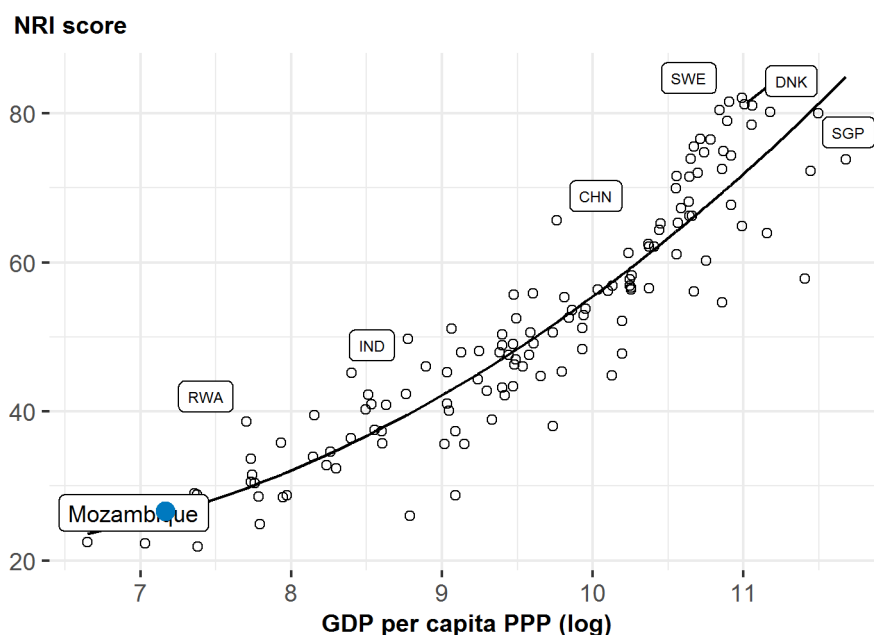
Note: NLD = Netherlands (rank: 1), SWE = Sweden (2), DNK = Denmark (3), CHN = China (29), IND = India (67). USA is ranked 4th. Mozambique belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is South Africa (ZAF).

Performance against its income group and region

Low-income countries
Mozambique is ranked 10th 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 two of the four pillars: technology and people. At the sub-pillar level, it outperforms low-income countries in three of the twelve sub-pillars: Access, Individuals and Trust.

Africa
Mozambique is ranked 25th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

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

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

Dimension	Mozambique	Low-income countries	Africa
NRI	26.55	28.84	33.19
Technology	21.93	21.78	26.99
People	25.68	25.42	30.56
Governance	31.71	32.91	39.23
Impact	26.86	35.24	35.99

Strongest and weakest indicators

The indicators where Mozambique performs particularly well include 1.1.4 SMS sent by population 15-69, 3.2.5 Privacy protection by law content, and 4.2.2 Freedom to make life choices (Table 3). By contrast, the economy's weakest indicators include 4.2.4 Healthy life expectancy at birth, 4.3.4 SDG 7: Affordable and Clean Energy, and 1.1.3 Households with internet access.

Table 3: Strongest and weakest indicators of Mozambique

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 SMS sent by population 15-69	21	3.3.4 Gender gap in Internet use	91
3.2.5 Privacy protection by law content	44	4.1.3 PCT patent applications	96
4.2.2 Freedom to make life choices	44	1.1.3 Households with internet access	125
3.1.3 Online access to financial account	53	4.2.4 Healthy life expectancy at birth	127
4.1.4 Growth rate of GDP per person engaged	61	4.3.4 SDG 7: Affordable and Clean Energy	127
2.3.4 R&D expenditure by governments and higher education	68		
2.1.1 Active mobile broadband subscriptions	81		
2.2.1 Firms with website	85		
3.3.1 E-Participation	93		
4.1.2 High-tech exports	94		

Mozambique

Network Readiness Index	Rank (out of 130) 125	Score 26.55
Pillar/sub-pillar	**Rank**	**Score**
A. Technology pillar	**121**	**21.93**
1st sub-pillar: Access	112	37.51
2nd sub-pillar: Content	125	13.26
3rd sub-pillar: Future Technologies	124	15.02
B. People pillar	**122**	**25.68**
1st sub-pillar: Individuals	120	33.53
2nd sub-pillar: Businesses	122	21.04
3rd sub-pillar: Governments	114	22.47
C. Governance pillar	**123**	**31.71**
1st sub-pillar: Trust	112	22.38
2nd sub-pillar: Regulation	114	43.81
3rd sub-pillar: Inclusion	124	28.94
D. Impact pillar	**126**	**26.86**
1st sub-pillar: Economy	122	16.05
2nd sub-pillar: Quality of Life	118	41.33
3rd sub-pillar: SDG Contribution	129	23.19

○ Mozambique
● Low-income group economy
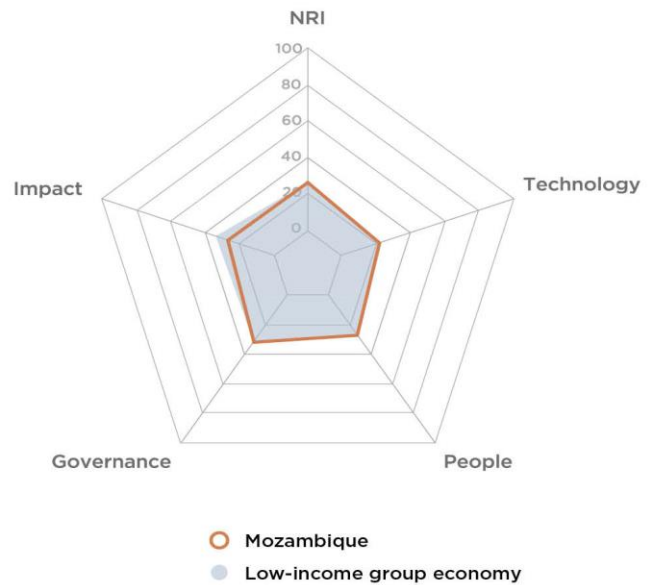
Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	121	21.93	
1st sub-pillar: Access	112	37.51	
1.1.1 Mobile tariffs	118	25.76	
1.1.2 Handset prices	119	18.40	
1.1.3 Households with internet access	125	1.90	○
1.1.4 SMS sent by population 15-69	21	83.80	●
1.1.5 Population covered by at least a 3G mobile network	107	94.63	
1.1.6 International Internet bandwidth	68	0.59	
1.1.7 Internet access in schools	NA	NA	
2nd sub-pillar: Content	125	13.26	
1.2.1 GitHub commits	115	0.18	
1.2.2 Wikipedia edits	121	15.45	
1.2.3 Internet domain registrations	*	*	
1.2.4 Mobile apps development	119	42.30	
1.2.5 AI scientific publications	116	8.27	
3rd sub-pillar: Future Technologies	124	15.02	
1.3.1 Adoption of emerging technologies	117	17.19	
1.3.2 Investment in emerging technologies	106	26.00	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	108	1.88	
B. People pillar	122	25.68	
1st sub-pillar: Individuals	120	33.53	
2.1.1 Active mobile broadband subscriptions	81	73.23	●
2.1.2 ICT skills	NA	NA	
2.1.3 Use of virtual social networks	119	6.96	
2.1.4 Tertiary enrollment	113	4.57	
2.1.5 Adult literacy rate	96	49.37	
2nd sub-pillar: Businesses	122	21.04	
2.2.1 Firms with website	85	35.64	●
2.2.2 GERD financed by business enterprise	98	0.53	
2.2.3 Professionals	120	4.13	
2.2.4 Technicians and associate professionals	120	5.41	
2.2.5 Annual investment in telecommunication services	114	59.46	
2.2.6 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	114	22.47	
2.3.1 Government online services	99	50.30	
2.3.2 Publication and use of open data	101	3.19	
2.3.3 Government promotion of investment in emerging tech	113	12.95	
2.3.4 R&D expenditure by governments and higher education	68	23.46	●

Indicator	Rank	Score	
C. Governance pillar	123	31.71	
1st sub-pillar: Trust	112	22.38	
3.1.1 Secure Internet servers	117	26.89	
3.1.2 Cybersecurity	111	22.85	
3.1.3 Online access to financial account	53	34.30	●
3.1.4 Internet shopping	90	5.48	
2nd sub-pillar: Regulation	114	43.81	
3.2.1 Regulatory quality	113	21.38	
3.2.2 ICT regulatory environment	109	62.55	
3.2.3 Legal framework's adaptability to emerging technologies	117	10.34	
3.2.4 E-commerce legislation	112	50.00	
3.2.5 Privacy protection by law content	44	74.78	●
3rd sub-pillar: Inclusion	124	28.94	
3.3.1 E-Participation	93	50.62	●
3.3.2 Socioeconomic gap in use of digital payments	112	22.12	
3.3.3 Availability of local online content	125	18.19	
3.3.4 Gender gap in Internet use	91	0.00	○
3.3.5 Rural gap in use of digital payments	90	53.79	
D. Impact pillar	126	26.86	
1st sub-pillar: Economy	122	16.05	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	94	7.64	●
4.1.3 PCT patent applications	96	0.00	○
4.1.4 Growth rate of GDP per person engaged	61	59.24	●
4.1.5 Prevalence of gig economy	119	5.83	
4.1.6 ICT services exports	105	7.53	
2nd sub-pillar: Quality of Life	118	41.33	
4.2.1 Happiness	97	37.47	
4.2.2 Freedom to make life choices	44	83.94	●
4.2.3 Income inequality	113	23.44	
4.2.4 Healthy life expectancy at birth	127	20.48	○
3rd sub-pillar: SDG Contribution	129	23.19	
4.3.1 SDG 3: Good Health and Well-Being	112	29.51	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 Females employed with advanced degrees	115	2.01	
4.3.4 SDG 7: Affordable and Clean Energy	127	5.99	○
4.3.5 SDG 11: Sustainable Cities and Communities	114	55.27	

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

Sources

Berry, B. (2019). berryFunctions: Function Collection Related to Plotting and Hydrology. R package version 1.18.2. URL: https://CRAN.R-project.org/package=berryFunctions

Dutta, S., & Lanvin, B. (eds.) (2019). The Network Readiness Index 2019: Towards a Future-Ready Society. Washington DC: Portulans Institute.

Dutta, S., & Lanvin, B. (eds.) (2020). The Network Readiness Index 2020: Fostering Digital Transformation in a post-COVID Global Economy. Washington DC: Portulans Institute.

Dutta, S., & Lanvin, B. (eds.) (2021). The Network Readiness Index 2021: Shaping the Global Recovery. How digital technologies can help make the post-COVID world more equal. Washington DC: Portulans Institute.

Gohel, D. (2019). officer: Manipulation of Microsoft Word and PowerPoint Documents. R package version 0.3.6. URL: https://CRAN.R-project.org/package=officer

Gohel, D. (2019). flextable: Functions for Tabular Reporting. R package version 0.5.6. URL: https://CRAN.R-project.org/package=flextable

Milton Bache, S. & Wickham, H. (2014). magrittr: A Forward-Pipe Operator for R. R package version 1.5. URL: https://CRAN.R-project.org/package=magrittr

Nakazawa, M. (2019). fmsb: Functions for Medical Statistics Book with some Demographic Data. R package version 0.7.0. URL: https://CRAN.R-project.org/package=fmsb

R Core Team (2018). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL: https://www.R-project.org/.

Slowikowski, K. (2019). ggrepel: Automatically Position Non-Overlapping Text Labels with 'ggplot2'. R package version 0.8.1. URL: https://CRAN.R-project.org/package=ggrepel

Wickham, H. (2007). Reshaping Data with the reshape Package. Journal of Statistical Software, 21(12), 1-20. URL: http://www.jstatsoft.org/v21/i12/.

Wickham, H. (2016). ggplot2: Elegant Graphics for Data Analysis. Springer-Verlag. New York.

Wickham et al., (2019). Welcome to the tidyverse. Journal of Open Source Software, 4(43), 1686, URL: https://doi.org/10.21105/joss.01686