



Bahrain

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 2023 the NRI Report maps the network-based readiness landscape of 134 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 58 variables.

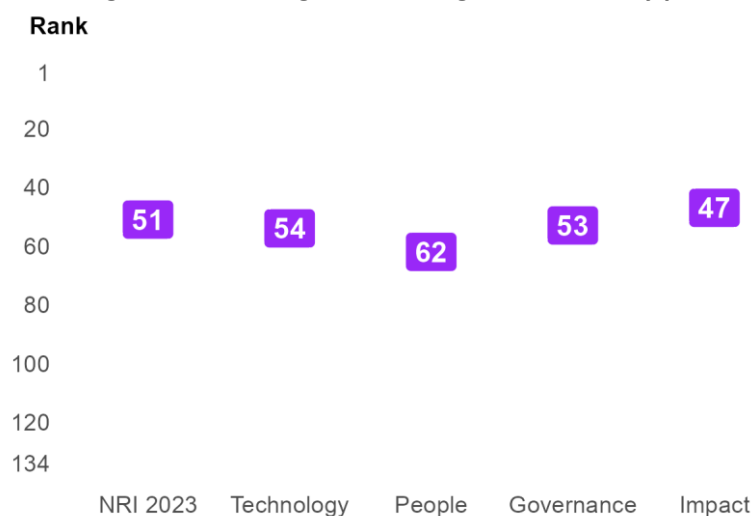
Figure 1: The NRI 2023 model



Global NRI position of Bahrain

Bahrain ranks 51st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Bahrain global ranking, overall and by pillar



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Performance at sub-pillar level

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

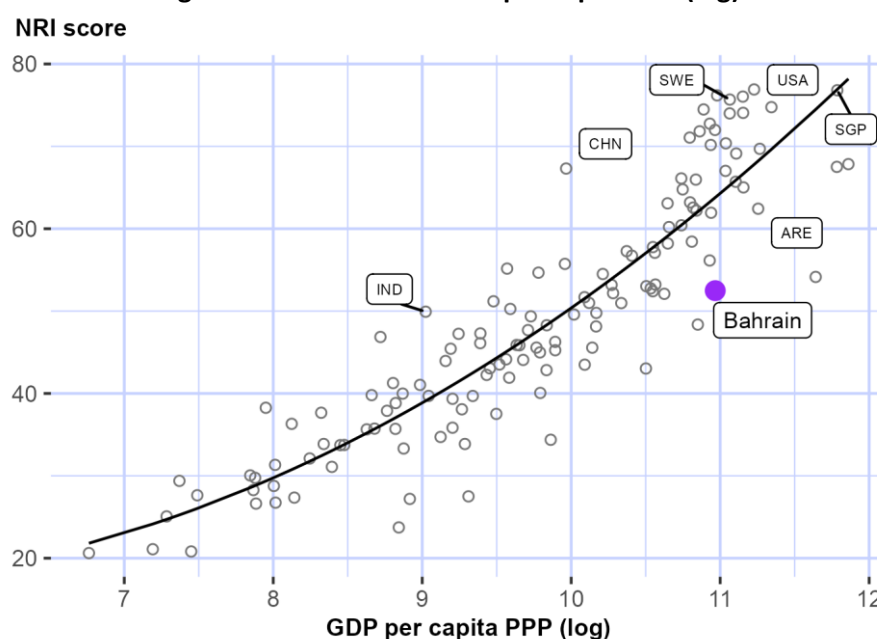
Table 1: Bahrain rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	9	Governments	61
Quality of Life	29	SDG Contribution	61
Future Technologies	31	Trust	62
Inclusion	47	Economy	68
Regulation	51	Content	93
Access	59	Businesses	98

NRI score and income

Figure 3 shows the position of Bahrain 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, Bahrain 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: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Bahrain belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

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Performance against its income group and region

High-income countries

Bahrain is ranked 44th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

Arab States

Bahrain is ranked 4th within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

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

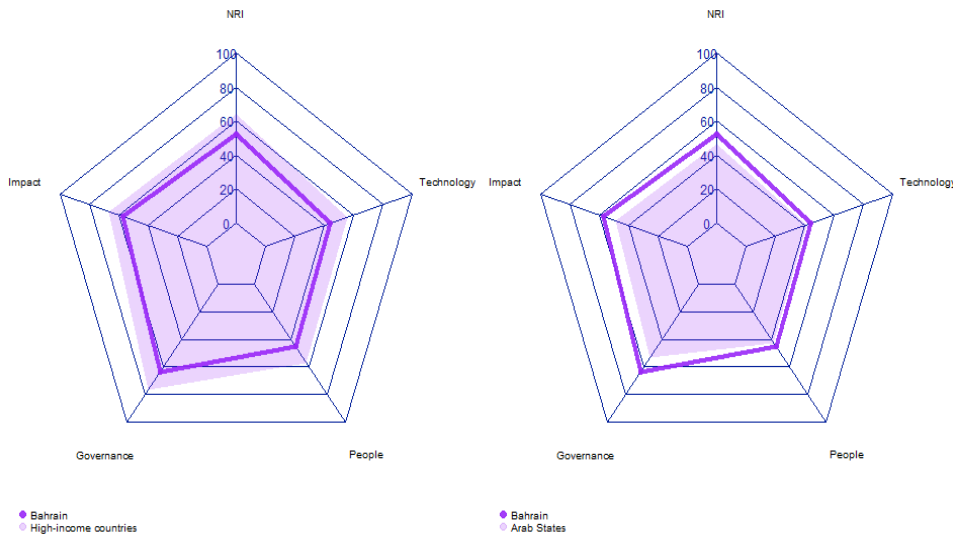


Table 2: Bahrain scores vs. averages of its income group and region, overall and by pillar

Dimension	Bahrain	High-income countries	Arab States
NRI	52.48	64.07	46.59
Technology	43.90	55.76	41.17
People	45.18	56.99	42.66
Governance	63.45	76.81	53.45
Impact	57.41	66.73	49.08

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Strongest and weakest indicators

The indicators where Bahrain performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 3.2.5 Privacy protection by law content, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Bahrain

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.5 GERD performed by business enterprise	79
1.1.6 Internet access in schools	1	2.3.4 R&D expenditure by governments and higher education	105
3.2.4 E-commerce legislation	1	1.2.4 AI scientific publications	118
2.1.3 Use of virtual social networks	2	3.2.5 Privacy protection by law content	125
4.2.2 Freedom to make life choices	6	4.3.4 SDG 7: Affordable and Clean Energy	126
4.3.5 SDG 11: Sustainable Cities and Communities	8		
3.3.3 Availability of local online content	14		
2.3.3 Government promotion of investment in emerging technologies	18		
3.2.3 Regulation of emerging technologies	19		
4.1.5 Prevalence of gig economy	25		
4.1.6 ICT services exports	25		
3.3.5 Rural gap in use of digital payments	26		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

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NRI 2023 At-A-Glance: Bahrain

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Rank: 51 (out of 134)

Score: 52.48

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	54	43.90	C. Governance pillar	53	63.45
1st sub-pillar: Access	59	67.00	1st sub-pillar: Trust	62	48.66
2nd sub-pillar: Content	93	17.82	2nd sub-pillar: Regulation	51	70.80
3rd sub-pillar: Future Technologies	31	46.87	3rd sub-pillar: Inclusion	47	70.88
B. People pillar	62	45.18	D. Impact pillar	47	57.41
1st sub-pillar: Individuals	9	61.42	1st sub-pillar: Economy	68	27.07
2nd sub-pillar: Businesses	98	33.41	2nd sub-pillar: Quality of Life	29	79.50
3rd sub-pillar: Governments	61	40.71	3rd sub-pillar: SDG Contribution	61	65.66

The Network Readiness Index in detail

Indicator	Rank	Score	Indicator	Rank	Score
A. Technology pillar	54	43.90	C. Governance pillar	53	63.45
1st sub-pillar: Access	59	67.00	1st sub-pillar: Trust	62	48.66
1.1.1 Mobile tariffs	77	56.01	3.1.1 Secure Internet servers	73	48.77
1.1.2 Handset prices	50	57.39	3.1.2 Cybersecurity	68	77.47
1.1.3 FTTH/building Internet subscriptions	101	13.35	3.1.3 Online access to financial account	46	40.00
1.1.4 Population covered by at least a 3G mobile network	1	100.00	3.1.4 Internet shopping	61	28.38
1.1.5 International Internet bandwidth	44	75.24	2nd sub-pillar: Regulation	51	70.80
1.1.6 Internet access in schools	1	100.00	3.2.1 Regulatory quality	35	68.78
2nd sub-pillar: Content	93	17.82	3.2.2 ICT regulatory environment	64	84.12
1.2.1 GitHub commits	60	8.40	3.2.3 Regulation of emerging technologies	19	76.36
1.2.2 Internet domain registrations	72	3.28	3.2.4 E-commerce legislation	1	100.00
1.2.3 Mobile apps development	88	59.20	3.2.5 Privacy protection by law content	125	24.72
1.2.4 AI scientific publications	118	0.40	3rd sub-pillar: Inclusion	47	70.88
3rd sub-pillar: Future Technologies	31	46.87	3.3.1 E-Participation	85	43.03
1.3.1 Adoption of emerging technologies	30	65.71	3.3.2 Socioeconomic gap in use of digital payments	66	75.64
1.3.2 Investment in emerging technologies	NA	NA	3.3.3 Availability of local online content	14	88.94

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Indicator	Rank	Score	Indicator	Rank	Score
1.3.3 Robot density	NA	NA	3.3.4 Gender gap in Internet use	26	71.55
1.3.4 Computer software spending	45	28.03	3.3.5 Rural gap in use of digital payments	26	75.26 ●
B. People pillar			D. Impact pillar		
<i>1st sub-pillar: Individuals</i>			<i>1st sub-pillar: Economy</i>		
2.1.1 Mobile broadband internet traffic within the country	64	9.99	4.1.1 High-tech and medium-high-tech manufacturing	91	10.40
2.1.2 ICT skills in the education system	24	72.08	4.1.2 High-tech exports	81	7.82
2.1.3 Use of virtual social networks	2	93.84 ●	4.1.3 PCT patent applications	63	3.21
2.1.4 Tertiary enrollment	48	41.72	4.1.4 Domestic market size	92	42.98
2.1.5 Adult literacy rate	60	89.49	4.1.5 Prevalence of gig economy	25	63.66 ●
2.1.6 AI talent concentration	NA	NA	4.1.6 ICT services exports	25	34.35 ●
<i>2nd sub-pillar: Businesses</i>			<i>2nd sub-pillar: Quality of Life</i>		
2.2.1 Firms with website	NA	NA	4.2.1 Happiness	45	71.06
2.2.2 GERD financed by business enterprise	65	26.93	4.2.2 Freedom to make life choices	6	94.98 ●
2.2.3 Knowledge intensive employment	65	31.21	4.2.3 Income inequality	NA	NA
2.2.4 Annual investment in telecommunication services	87	74.99	4.2.4 Healthy life expectancy at birth	67	72.47
2.2.5 GERD performed by business enterprise	79	0.51 ○	<i>3rd sub-pillar: SDG Contribution</i>		
<i>3rd sub-pillar: Governments</i>			4.3.1 SDG 3: Good Health and Well-Being	63	70.70
2.3.1 Government online services	54	72.62	4.3.2 SDG 4: Quality Education	NA	NA
2.3.2 Publication and use of open data	76	17.65	4.3.3 SDG 5: Women's economic opportunity	114	54.87
2.3.3 Government promotion of investment in emerging tech	18	70.91 ●	4.3.4 SDG 7: Affordable and Clean Energy	126	40.61 ○
2.3.4 R&D expenditure by governments and higher education	105	1.64 ○	4.3.5 SDG 11: Sustainable Cities and Communities	8	96.47 ●

NOTE: ● a strength and ○ a weakness.

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