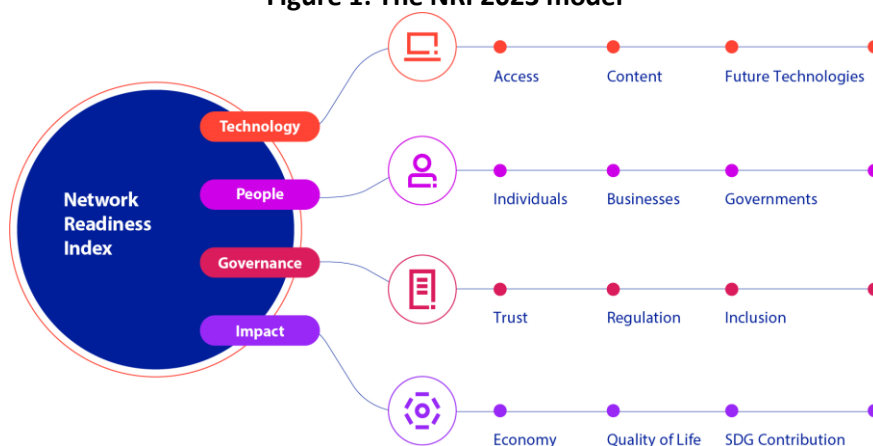


Kuwait

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.

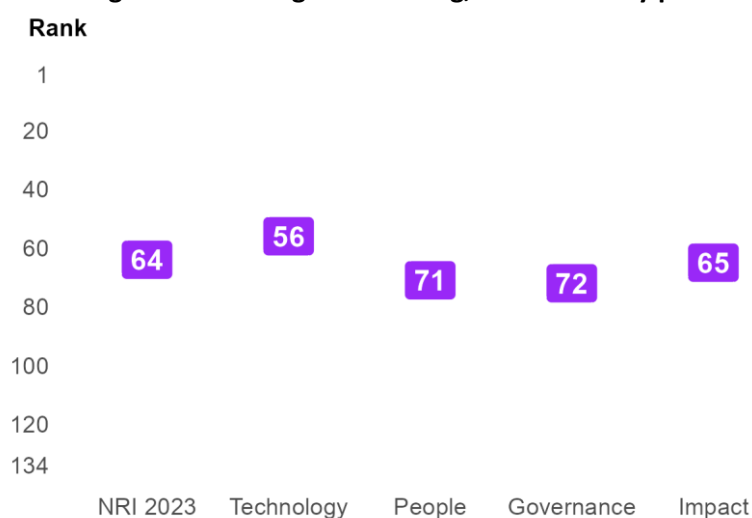
Figure 1: The NRI 2023 model



Global NRI position of Kuwait

Kuwait ranks 64th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Kuwait global ranking, overall and by pillar



Network Readiness Index 2023



PORTULANS
INSTITUTE



Performance at sub-pillar level

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

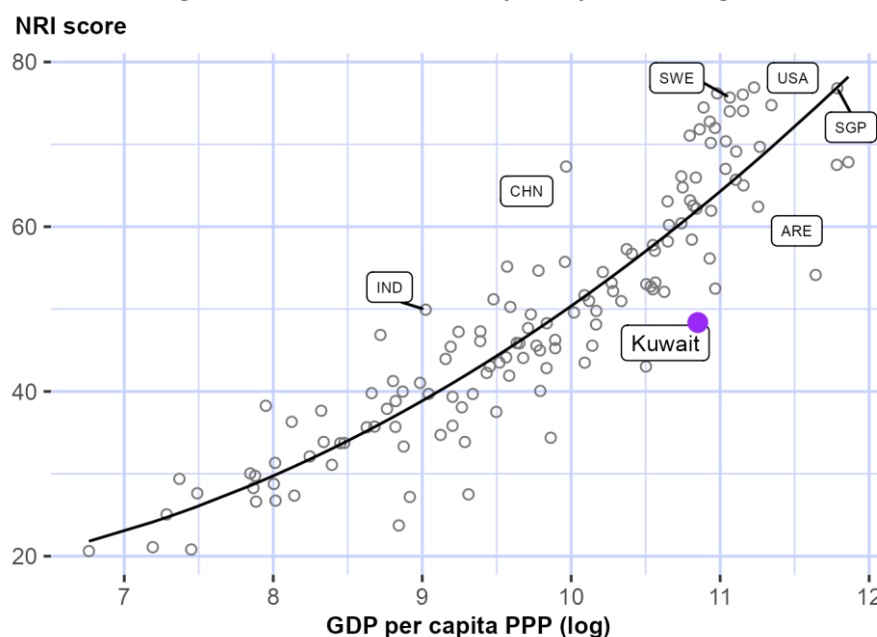
Table 1: Kuwait rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	30	Governments	74
Individuals	33	Regulation	80
Future Technologies	38	Inclusion	81
Access	54	Businesses	89
Economy	56	Content	90
Trust	67	SDG Contribution	110

NRI score and income

Figure 3 shows the position of Kuwait 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, Kuwait 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). Kuwait 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).

Network Readiness Index 2023



Performance against its income group and region

High-income countries

Kuwait is ranked 47th 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

Kuwait is ranked 6th within Arab States (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, Governance and Impact. With regard to sub-pillars, it outperforms the average in Arab States in eight of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Regulation, Economy and Quality of Life.

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

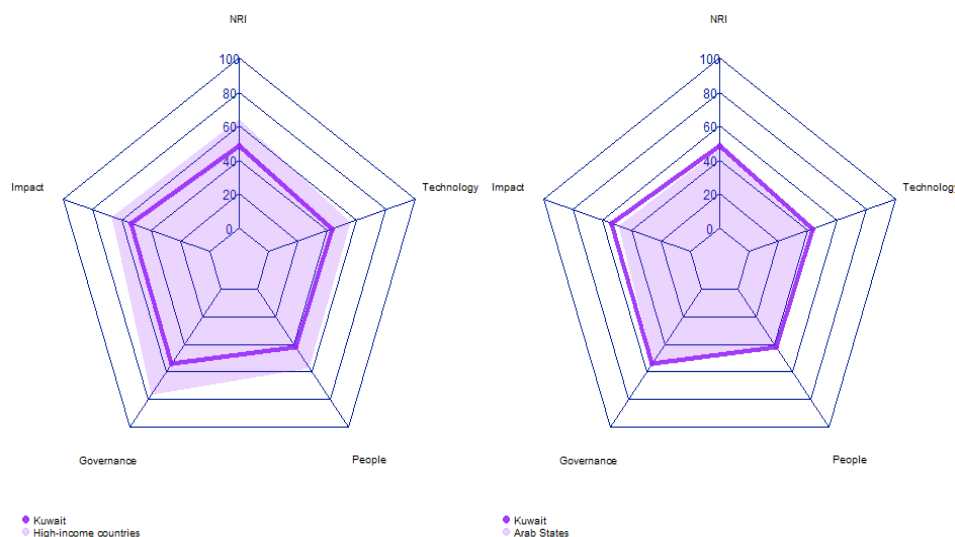


Table 2: Kuwait scores vs. averages of its income group and region, overall and by pillar

Dimension	Kuwait	High-income countries	Arab States
NRI	48.36	64.07	46.59
Technology	43.14	55.76	41.17
People	42.27	56.99	42.66
Governance	54.17	76.81	53.45
Impact	53.86	66.73	49.08

Network Readiness Index 2023



Strongest and weakest indicators

The indicators where Kuwait 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 4.3.3 SDG 5: Women's economic opportunity, 3.3.5 Rural gap in use of digital payments, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Kuwait

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.2 GERD financed by business enterprise	92
1.1.6 Internet access in schools	1	4.3.4 SDG 7: Affordable and Clean Energy	115
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	117
4.1.6 ICT services exports	10	3.3.5 Rural gap in use of digital payments	124
2.1.3 Use of virtual social networks	19	4.3.3 SDG 5: Women's economic opportunity	132
1.3.4 Computer software spending	24		
3.3.4 Gender gap in Internet use	25		
2.1.1 Mobile broadband internet traffic within the country	27		
4.2.4 Healthy life expectancy at birth	29		
1.1.2 Handset prices	39		
4.2.2 Freedom to make life choices	41		

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

Network Readiness Index 2023



PORTULANS
INSTITUTE



NRI 2023 At-A-Glance: Kuwait

Network Readiness Index

Rank: 64 (out of 134)

Score: 48.36

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	56	43.14	C. Governance pillar	72	54.17
1st sub-pillar: Access	54	68.59	1st sub-pillar: Trust	67	44.83
2nd sub-pillar: Content	90	18.08	2nd sub-pillar: Regulation	80	62.07
3rd sub-pillar: Future Technologies	38	42.76	3rd sub-pillar: Inclusion	81	55.61
B. People pillar	71	42.27	D. Impact pillar	65	53.86
1st sub-pillar: Individuals	33	54.27	1st sub-pillar: Economy	56	31.68
2nd sub-pillar: Businesses	89	36.46	2nd sub-pillar: Quality of Life	30	79.47
3rd sub-pillar: Governments	74	36.08	3rd sub-pillar: SDG Contribution	110	50.43

The Network Readiness Index in detail

Indicator	Rank	Score	Indicator	Rank	Score
A. Technology pillar	56	43.14	C. Governance pillar	72	54.17
1st sub-pillar: Access	54	68.59	1st sub-pillar: Trust	67	44.83
1.1.1 Mobile tariffs	54	67.95	3.1.1 Secure Internet servers	77	47.92
1.1.2 Handset prices	39	65.55	• 3.1.2 Cybersecurity	73	74.63
1.1.3 FTTH/building Internet subscriptions	117	5.16	○ 3.1.3 Online access to financial account	55	34.02
1.1.4 Population covered by at least a 3G mobile network	1	100.00	• 3.1.4 Internet shopping	64	22.76
1.1.5 International Internet bandwidth	59	72.86	2nd sub-pillar: Regulation	80	62.07
1.1.6 Internet access in schools	1	100.00	• 3.2.1 Regulatory quality	61	53.55
2nd sub-pillar: Content	90	18.08	3.2.2 ICT regulatory environment	95	69.41
1.2.1 GitHub commits	101	1.95	3.2.3 Regulation of emerging technologies	76	39.22
1.2.2 Internet domain registrations	65	4.07	3.2.4 E-commerce legislation	1	100.00
1.2.3 Mobile apps development	67	65.32	3.2.5 Privacy protection by law content	101	48.18
1.2.4 AI scientific publications	104	0.99	3rd sub-pillar: Inclusion	81	55.61
3rd sub-pillar: Future Technologies	38	42.76	3.3.1 E-Participation	67	53.49
1.3.1 Adoption of emerging technologies	77	42.95	3.3.2 Socioeconomic gap in use of digital payments	64	76.49
1.3.2 Investment in emerging technologies	57	42.50	3.3.3 Availability of local online content	48	68.51

Network Readiness Index 2023



PORTULANS
INSTITUTE



Indicator	Rank	Score		Indicator	Rank	Score	
1.3.3 Robot density	NA	NA		3.3.4 Gender gap in Internet use	25	72.04	●
1.3.4 Computer software spending	24	42.84	●	3.3.5 Rural gap in use of digital payments	124	7.53	○
B. People pillar	71	42.27		D. Impact pillar	65	53.86	
<i>1st sub-pillar: Individuals</i>	33	54.27		<i>1st sub-pillar: Economy</i>	56	31.68	
2.1.1 Mobile broadband internet traffic within the country	27	30.26	●	4.1.1 High-tech and medium-high-tech manufacturing	61	24.80	
2.1.2 ICT skills in the education system	89	28.91		4.1.2 High-tech exports	107	2.20	
2.1.3 Use of virtual social networks	19	79.18	●	4.1.3 PCT patent applications	89	0.67	
2.1.4 Tertiary enrollment	53	37.85		4.1.4 Domestic market size	63	53.32	
2.1.5 Adult literacy rate	41	95.16		4.1.5 Prevalence of gig economy	46	53.20	
2.1.6 AI talent concentration	NA	NA		4.1.6 ICT services exports	10	55.91	●
<i>2nd sub-pillar: Businesses</i>	89	36.46		<i>2nd sub-pillar: Quality of Life</i>	30	79.47	
2.2.1 Firms with website	NA	NA		4.2.1 Happiness	48	69.82	
2.2.2 GERD financed by business enterprise	92	1.18	○	4.2.2 Freedom to make life choices	41	82.00	●
2.2.3 Knowledge intensive employment	63	32.42		4.2.3 Income inequality	NA	NA	
2.2.4 Annual investment in telecommunication services	81	75.79		4.2.4 Healthy life expectancy at birth	29	86.58	●
2.2.5 GERD performed by business enterprise	NA	NA		<i>3rd sub-pillar: SDG Contribution</i>	110	50.43	
<i>3rd sub-pillar: Governments</i>	74	36.08		4.3.1 SDG 3: Good Health and Well-Being	73	67.63	
2.3.1 Government online services	66	66.55		4.3.2 SDG 4: Quality Education	NA	NA	
2.3.2 Publication and use of open data	NA	NA		4.3.3 SDG 5: Women's economic opportunity	132	7.96	○
2.3.3 Government promotion of investment in emerging tech	62	38.52		4.3.4 SDG 7: Affordable and Clean Energy	115	50.72	○
2.3.4 R&D expenditure by governments and higher education	91	3.18		4.3.5 SDG 11: Sustainable Cities and Communities	49	75.41	

NOTE: ● a strength and ○ a weakness.



Sources

- Dutta, S., & Lanvin, B. (eds.) (2022). The Network Readiness Index 2022: Benchmarking the Future of the Network Economy. Washington DC: Portulans Institute.
- 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 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>