

GKI RANK 120 /141

GKI SCORE

35

WORLD AVERAGE

47.8

COUNTRY PERFORMANCE SUMMARY

Pakistan is a weak performer in terms of its knowledge infrastructure. It ranks 120th out of 141 countries in the Global Knowledge Index 2024 and 6th out of the 23 countries with low human development.

PAKISTAN

KEY INDICATORS

GDP (US\$ billions): 1,346.557

Population: 247,504,496

HDI: 0.54

AREAS OF STRENGTH

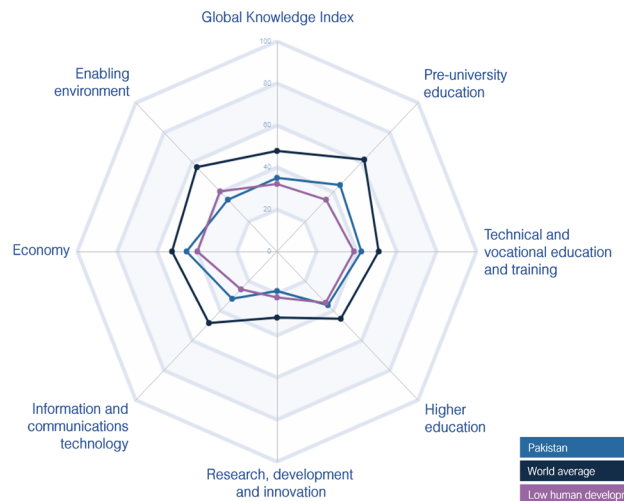
- + Researchers in higher education (%)
- + Ecological footprint per capita
- + Citations per document
- + Completion rate in upper secondary education, gender parity
- + Unemployment rate with vocational education

AREAS OF IMPROVEMENT

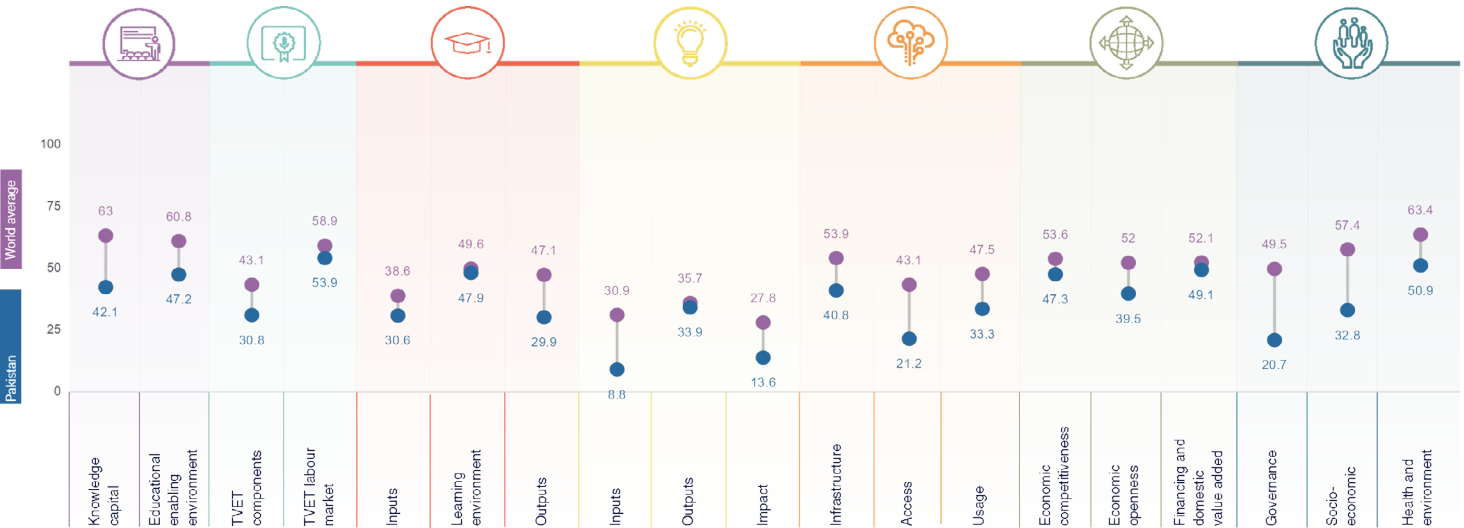
- Firms with products and services new to the market (%)
- ICT PCT patent applications (per 100 billion GDP)
- Firms offering formal training (%)
- Firms that spend on R&D (%)
- Trade (% GDP)

SECTORAL INDICES

	RANK	VALUE
PRE-UNIVERSITY EDUCATION	114	44.7
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	113	42.3
HIGHER EDUCATION	111	36.1
RESEARCH, DEVELOPMENT AND INNOVATION	132	18.8
INFORMATION AND COMMUNICATIONS TECHNOLOGY	115	31.8
ECONOMY	103	45.3
ENABLING ENVIRONMENT	137	34.8



GKI PILLARS





PAKISTAN

Rank Value

PRE-UNIVERSITY EDUCATION	114	44.7
Knowledge capital	116	42.1
Enrolment	118	51.6
Net enrolment rate in primary education	128	48.6
Net enrolment rate in lower secondary education	110	61.5
Net enrolment rate in upper secondary education	111	44.8
Completion	105	47.5
Years of compulsory education in primary and secondary	3	92.3
Completion rate in upper secondary education	91	22.8
Gross intake ratio to the last grade of lower secondary education	110	27.4
Outcomes	112	27.1
Assessment of 15-year-old students in math, science and reading	n/a	n/a
Learning-adjusted years of schooling	116	27.1
Educational enabling environment	107	47.2
Expenditure	112	19.3
Government expenditure on primary education (% GDP)	109	18.3
Government expenditure on secondary education (% GDP)	106	10.3
Government funding per primary student (% GDP per capita)	101	19.9
Government funding per secondary student (% GDP per capita)	73	28.6
Resources	106	63.6
Pupil-trained teacher ratio in primary education	90	54.8
Pupil-trained teacher ratio in secondary education	39	89.8
Schools with access to computers in primary education (%)	81	46.2
Schools with access to computers in secondary education (%)	n/a	n/a
Early learning	76	57.7
Gross enrolment ratio in early childhood education	37	57.7
Proportion of children who are developmentally on track	n/a	n/a
Proportion of children with stimulating home learning environments	n/a	n/a
Pupil-trained teacher ratio in pre-primary education	n/a	n/a
Equity and inclusiveness	83	48.4
Completion rate in upper secondary education, gender parity	7	99
Completion rate in upper secondary education, wealth parity	78	2.5
Completion rate in upper secondary education, location parity	81	43.8
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	113	42.3
TVET components	126	30.8
Continuous training and skilling	139	6.1
Firms offering formal training (%)	123	2.7
Labour force participation rate with short-cycle tertiary education	n/a	n/a
Participation rate in formal and non-formal education and training	122	9.6
TVET structure	82	38.6
Government expenditure on vocational education (%)	69	11.2
Share of students enrolled in secondary vocational programmes	107	4.7
Share of students enrolled in post-secondary vocational programmes	1	100
TVET quality and qualifications	33	47.6
Extent of staff training	59	59.6
Quality of vocational training	67	54.6
Ratio of high-skill TVET occupations earnings to average wage	27	37.4
Ratio of medium-skill TVET occupations earnings to average wage	20	38.8
TVET labour market	99	53.9
Efficiency of the labour market	77	67.4
Firms constrained with inadequately educated workforce (%)	53	75
Employment educational mismatch (%)	103	36.4
Proportion of skilled production workers	58	66.9
Unemployment rate with vocational education	17	91.3
Post-TVET employment	66	45.3
Share of TVET occupations	101	40.9
Manufacturing employment (%)	32	49.7
Equity and inclusiveness	111	49
Enrolment in vocational education, gender parity	99	58.3
Vulnerable employment rate	104	39.6

Rank Value

HIGHER EDUCATION	111	36.1
Inputs	101	30.6
Expenditure	103	5.7
Government expenditure per tertiary student	76	5.7
Teaching staff compensation (% tertiary expenditure)	n/a	n/a
Enrolment	110	5.1
Enrolment in bachelor's or equivalent level (%)	106	7.1
Enrolment in master's, doctoral or equivalent (%)	108	3.2
Resources	24	81
Pupil-teacher ratio in tertiary education	82	67.8
Researchers in higher education (%)	2	94.2
Learning environment	76	47.9
Diversity and academic freedom	69	52.4
Teachers in tertiary education, gender parity	n/a	n/a
Inbound mobility rate	n/a	n/a
Academic freedom	95	52.4
Equity and inclusiveness	40	43.4
Gross attendance ratio for tertiary education, gender parity	25	88.4
Gross attendance ratio for tertiary education, wealth parity	58	2.3
Gross attendance ratio for tertiary education, location parity	33	39.6
Outputs	131	29.9
Attainment	96	8.9
Educational attainment rate, bachelor's or equivalent	94	13.9
Educational attainment rate, master's or equivalent	59	12.3
Educational attainment rate, doctoral or equivalent	116	0.6
Employment	130	52.9
Labour force participation rate with advanced education	126	59.9
Unemployment rate with advanced education	132	45.8
Impact	112	28
University-industry collaboration in R&D	48	51.5
Citable documents per R&D personnel in higher education	92	4.5
RESEARCH, DEVELOPMENT AND INNOVATION	132	18.8
Inputs	139	8.8
Inputs of R&D institutions	128	4.1
GERD (% GDP)	96	2.8
GERD per researcher	100	2
Researchers per thousand labour force	69	7.5
Tertiary graduates from STEM programmes (%)	n/a	n/a
Inputs of RDI in business enterprises	132	3.2
GERD performed by business enterprises (%)	n/a	n/a
GERD financed by business enterprises (%)	n/a	n/a
Researchers in business enterprises (%)	n/a	n/a
Firms that spend on R&D (%)	115	3.2
Inputs of societal innovation	106	23.9
High-skilled employment (%)	104	13.5
Intellectual property payments (% total trade)	88	5.1
State of cluster development	43	53.2
Outputs	74	33.9
Outputs of R&D institutions	33	47.5
Average documents per researcher	81	12
Citations per document	4	87.8
Resident patent applications (per 100 billion GDP)	88	42.7
Outputs of RDI in business enterprises	125	14.1
Intellectual property receipts (% total trade)	87	7
Industrial design applications (per 100 billion GDP)	87	45.3
PCT applications (per 100 billion GDP)	129	0.1
Firms producing new products and services (%)	115	4.2
Outputs of societal innovation	107	26.6
Trademark applications (per 100 billion GDP)	65	14.2
Cultural goods exports (% exports)	90	56.2
Printing and publishing output (% manufactured output)	85	9.3
Impact	130	13.6
Quality	67	22.4
Research institutions prominence	35	24.3
Growth of innovative companies	38	54.1
ISO 9001 quality certificates (per billion GDP)	85	6.2
ISO 14001 environmental certificates (per billion GDP)	83	5.1
Linkages	59	18.2
GERD financed from abroad (%)	86	2.5
Joint ventures per strategic alliance deals (per billion GDP)	40	11.2
Computer software spending (% GDP)	23	40.7
Business development	139	0.3
New business density per thousand population	123	0.7
Firms with products and services new to the market (%)	117	0



PAKISTAN

	Rank	Value
INFORMATION AND COMMUNICATIONS TECHNOLOGY	115	31.8
Infrastructure	110	40.8
Coverage	119	38.6
3G/4G mobile network coverage (% population)	119	69.4
Secure Internet servers per 1 million population	111	32.8
Investment in telecommunication services (% GDP)	109	13.4
Quality	137	3.2
Mobile upload and download speeds	132	4.1
Fixed-broadband upload and download speeds	133	3.4
Fixed-broadband subscriptions by speed per hundred people	108	1.9
Affordability	80	80.7
Fixed broadband basket (% GNI per capita)	112	48.7
Mobile broadband basket (% GNI per capita)	75	93.4
Internet and telephony competition	1	100
Access	126	21.2
Subscriptions	116	39.5
Active mobile-broadband subscriptions per hundred inhabitants	119	24.4
International Internet bandwidth per user	72	56
Households with Internet access at home (%)	120	38.2
Skills and employment	130	2.9
Individuals with standard ICT skills (%)	86	0.4
Tertiary graduates from ICT programmes (%)	n/a	n/a
ICT employment (%)	91	5.5
Usage	106	33.3
Services	100	37.8
Government online services	73	70.4
Fixed broadband Internet traffic per subscription	34	38.7
Mobile broadband Internet traffic per subscription	72	16.5
Internet users (%)	126	25.5
Outcomes	113	28.9
ICT PCT patent applications (per 100 billion GDP)	119	0
E-participation	84	49.3
Internet activities by individuals (%)	n/a	n/a
Trade in digitally deliverable services (% total trade)	59	37.4
ECONOMY	103	45.3
Economic competitiveness	92	47.3
Infrastructure investment	115	41.7
Gross fixed capital formation (% GDP)	127	20
Logistics performance	114	35.5
Transport productive capacity	107	24.8
Building quality control	44	86.5
Business agility	77	52.8
Ease of starting a business	61	89.3
Insolvency recovery rate	51	46.6
Entrepreneurial employee activity rate	80	4
Extent of corporate transparency	51	71.4
Economic openness	111	39.5
Trade and diversification	79	48.8
Trade (% GDP)	132	2.3
High-technology trade (% total trade)	63	19.1
Product concentration	55	80.3
Market concentration	35	93.4
Financial openness	123	30.3
Chinn-Ito financial openness	88	16.3
Foreign direct investment, net inflows (% GDP)	121	35
Debt dynamics	105	39.5
Financing and domestic value added	85	49.1
Financing and taxes	83	55.7
Domestic credit to private sector (% GDP)	129	4.8
MSME financing gap (% GDP)	45	80.3
Tax and contribution rate (% profit)	44	69.2
Bank non-performing loans (%)	99	68.6
Domestic value added	86	42.5
Medium- and high-tech activities value added	68	24.5
Industry and services value added (% GDP)	124	54.5
Labour underutilization rate	25	84.5
Output per worker	105	6.4

	Rank	Value
ENABLING ENVIRONMENT	137	34.8
Governance	125	20.7
Political environment	128	15.9
Peace and stability	136	6.6
Voice and accountability	112	25.1
Quality of institutions	112	25.6
Rule of law	112	25
Control of corruption	113	22.6
Government effectiveness	105	29.2
Socio-economic	132	32.8
Gender equity	139	35.4
Female-to-male ratio in parliament	114	19.3
Female-to-male labour force participation	135	30.2
Female-to-male ratio in Internet usage	107	56.6
Social inclusion	135	28.1
Social protection coverage (% population)	104	18.2
Adult literacy rate	102	42.2
Youth not in employment, education or training (%)	132	23.9
Standard of living	87	34.9
Poverty headcount ratio (% population)	63	66.3
GDP per capita	114	3.6
Health and environment	137	50.9
Health	122	45.4
Universal health coverage	119	45.2
Healthy life expectancy (years)	114	42.2
Under-five mortality rate	124	48.8
Environmental performance	59	56.4
Renewable energy consumption (%)	45	43.2
Ecological footprint per capita	3	99.1
Natural hazard exposure	134	27

* All values are normalized to a scale from 0 (worst) to 100 (best).