The GII indicators are grouped into innovation inputs and outputs. The following table reflects Morocco’s ranking over time.

<table>
<thead>
<tr>
<th>Year</th>
<th>GII</th>
<th>Input</th>
<th>Output</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>76</td>
<td>84</td>
<td>69</td>
<td>65</td>
</tr>
<tr>
<td>2017</td>
<td>72</td>
<td>79</td>
<td>68</td>
<td>71</td>
</tr>
<tr>
<td>2016</td>
<td>72</td>
<td>75</td>
<td>70</td>
<td>64</td>
</tr>
</tbody>
</table>

- Morocco exhibits stability in innovation outputs, ranking between 68th and 70th over the last three years.
- Morocco’s position in innovation inputs, instead, deteriorates further this year, taking the 84th place and moving down 5 positions from 2017 and 9 from 2016.
- It ranks 65th in the Innovation Efficiency Ratio, improving from the 71st spot it held last year. Relative to its overall GII position (76th), Morocco proves to be efficient in translating its innovation inputs into outputs. This is partly due to a higher ranking in innovation outputs (69th) compared to inputs (84th).

Morocco is ranked 76th in the GII 2018, moving down 4 positions from the previous year.

Morocco is ranked 10th among the 30 lower-middle-income economies in the GII 2018.

Morocco is ranked 13th among the 19 countries in Northern Africa and Western Asia.

1 Note that year-on-year comparisons of the GII ranks are imperfect and influenced by changes in the GII model and data availability.
Benchmarking Morocco to other lower-middle-income countries and the Northern Africa and Western Asia region

Morocco’s scores by GII area

Lower-middle-income countries

Morocco has high scores in 5 of the 7 GII areas – Institutions, Human Capital & Research, Infrastructure, Knowledge & Technology Outputs, and Creative Outputs, in which it scores above the average of the lower-middle-income group.

Top scores in areas such as Business environment, Education, Information & Communication Technologies (ICTs), Knowledge impact, and Intangible assets are behind these high rankings.

Northern Africa and Western Asia region

Compared to other countries in the Northern Africa and Western Asia region, Morocco performs above-average in one GII area – Infrastructure.

Morocco’s innovation profile

Strengths

- Morocco exhibits a good performance in Infrastructure (50th), the top-ranked GII area for the country. Here four indicators are marked as relatively strong: Government’s online service (36th), E-participation (17th), Gross capital formation (16th), and GDP per unit of energy use (21st).

- In Human Capital & Research (84th), GII strengths lie in two indicators: Expenditure on education (41st) and Government funding per pupil, where it ranks 6th globally.

- Other GII strengths on the innovation input side are found in two indicators: Ease of starting a business (31st) within Institutions (75th) and Market capitalization (31st) within Market Sophistication (93rd).

- On the innovation output side, Morocco shows strengths in the two GII areas that capture the output side of the innovation process.

- In Knowledge & Technology Outputs (78th), the country performs strongly in the indicator ICT services exports (25th).

- The area Intangible assets (40th) and the indicator Industrial designs by origin (8th) are GII strengths for Morocco in Creative Outputs (70th).
Weaknesses

- On the innovation input side, most of the relative GII weaknesses are accrued in Business Sophistication (115th), the lowest ranked area for the country, signaled itself as a relative weakness. Here the country demonstrates weak performance in all its three components: Knowledge workers (104th), Innovation linkages (106th), and Knowledge absorption (106th). At the indicator level, Morocco ranks relatively weakly in Knowledge-intensive employment (104th), R&D financed by abroad (81st), Patent families in 2 or more offices (97th), and Research talent in business enterprise (68th).

- On the innovation output side, instead, Morocco shows most of its weaknesses in Creative Outputs (70th), and in particular in the area Creative goods & services (105th) and three of its five indicators – National feature films (85th), Entertainment & Media market (59th), and Printing & other media (77th).

- The other relative weaknesses for Morocco are scattered around various GII areas.

- In Institutions (75th), one indicator – Ease of resolving insolvency (110th) – is marked as a weakness.

- The indicator Global R&D companies expenditure (40th) is the only GII weakness in Human Capital & Research (84th).

- In Knowledge & Technology Outputs (78th), a weakness lies in the indicator Intellectual property receipts (87th).

The following figure presents a summary of Morocco’s ranks in the 7 GII areas, as well as the overall rank in the GII 2018.

**Morocco’s rank in the GII 2018 and the 7 GII areas**

<table>
<thead>
<tr>
<th>Category</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>50</td>
</tr>
<tr>
<td>Creative outputs</td>
<td>70</td>
</tr>
<tr>
<td>Institutions</td>
<td>75</td>
</tr>
<tr>
<td>Global Innovation Index 2018</td>
<td>76</td>
</tr>
<tr>
<td>Knowledge and technology outputs</td>
<td>78</td>
</tr>
<tr>
<td>Human capital and research</td>
<td>84</td>
</tr>
<tr>
<td>Market sophistication</td>
<td>93</td>
</tr>
<tr>
<td>Business sophistication</td>
<td>115</td>
</tr>
</tbody>
</table>
Expected vs. Observed Innovation Performance

The GII bubble chart shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The depicted trendline gives an indication of the expected innovation performance at different levels of income. Countries located above the trendline are performing better than what would be expected based on their income level. Countries below the line are Innovation Under-performers relative to GDP.

Relative to GDP, Morocco performs at its expected level of development.
**Missing and Outdated Data**

More and better data improves the ability of a country to understand its strengths and weaknesses and give policymakers greater capacity to plan and adapt public policies accordingly. The GII 2018 covers 126 countries that complied with the minimum indicator coverage of 35 indicators in the Innovation Input Sub-Index (66%) and 18 indicators in the Innovation Output Sub-Index (66%).

The following tables show data for Morocco that is not available or that is outdated.

### Missing Data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator</th>
<th>Country Year</th>
<th>Model Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.4</td>
<td>PISA scales in reading, maths &amp; science</td>
<td>n/a</td>
<td>2015</td>
<td>OECD PISA</td>
</tr>
<tr>
<td>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
<td>n/a</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Females employed w/advanced degrees, %</td>
<td>n/a</td>
<td>2016</td>
<td>ILO, ILOSTAT</td>
</tr>
<tr>
<td>6.1.3</td>
<td>Utility models by origin/bn PPP$ GDP</td>
<td>n/a</td>
<td>2016</td>
<td>WIPO, Intellectual Property Statistics</td>
</tr>
</tbody>
</table>

### Outdated Data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator</th>
<th>Country Year</th>
<th>Model Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
<td>2009</td>
<td>2014</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
<td>2012</td>
<td>2014</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.3</td>
<td>School life expectancy, years</td>
<td>2012</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Gross expenditure on R&amp;D, % GDP</td>
<td>2010</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Knowledge-intensive employment, %</td>
<td>2011</td>
<td>2016</td>
<td>ILO, ILOSTAT</td>
</tr>
<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>2010</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.1.4</td>
<td>GERD financed by business, %</td>
<td>2010</td>
<td>2015</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.2.3</td>
<td>GERD financed by abroad, %</td>
<td>2010</td>
<td>2015</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>6.2.5</td>
<td>High- &amp; medium-high-tech manufactures, %</td>
<td>2013</td>
<td>2015</td>
<td>UNIDO, Industrial Statistics</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Printing &amp; other media, % manufacturing</td>
<td>2013</td>
<td>2015</td>
<td>UNIDO, Industrial Statistics</td>
</tr>
<tr>
<td>7.2.5</td>
<td>Creative goods exports, % total trade</td>
<td>2015</td>
<td>2016</td>
<td>UN COMTRADE</td>
</tr>
<tr>
<td>7.3.3</td>
<td>Wikipedia edits/mn pop. 15–69</td>
<td>2016</td>
<td>2017</td>
<td>Wikimedia Foundation</td>
</tr>
</tbody>
</table>
**MOROCCO**

<table>
<thead>
<tr>
<th>Output rank</th>
<th>Input rank</th>
<th>Income</th>
<th>Region</th>
<th>Efficiency ratio</th>
<th>Population (mn)</th>
<th>GDP, PPP$</th>
<th>GDP per capita, PPP$</th>
<th>GII 2017 rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>84</td>
<td>Lower-middle</td>
<td>NAWA</td>
<td>65</td>
<td>35.7</td>
<td>3001.1</td>
<td>8,566.8</td>
<td>76</td>
</tr>
</tbody>
</table>

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### Institutions

<table>
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<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>57.0</td>
<td>75</td>
</tr>
</tbody>
</table>

1. Political environment 47.4 75
2. Political stability & safety* 58.0 80
3. Government effectiveness* 42.7 75

---

### Human capital & research

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.1</td>
<td>84</td>
</tr>
</tbody>
</table>

1. Education 46.2 68
2.1.1 Expenditure on education, % GDP 53.1 41
2.1.2 Government funding/pupil, secondary, % GDP/cap 36.5 6 1
2.1.3 School life expectancy, years 11.8 89
2.1.4 PISA scales in reading, maths & science n/a n/a
2.1.5 Pupil-teacher ratio, secondary n/a n/a
2.2 Tertiary education 21.0 92
2.2.1 Tertiary enrolment, % gross 32.0 77
2.2.2 Graduates in science & engineering, % 18.4 67
2.2.3 Tertiary student mobility, % 7.1 76
2.3 Research & development (R&D) 8.2 64
2.3.1 Researchers, FTE/million pop 1069.0 48
2.3.2 Gross expenditure on R&D, % GDP 0.7 47
2.3.3 Global R&D companies, top 3, mn USD 0.0 40 1
2.3.4 GS university ranking, average score top 3 3.6 74

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### Infrastructure

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>49.5</td>
<td>50</td>
</tr>
</tbody>
</table>

3.1 Information & communication technologies (ICTs) 63.6 53
3.1.1 ICT access 60.6 70
3.1.2 ICT use* 36.8 84
3.1.3 Government's online service* 73.9 36 1
3.1.4 E-participation* 83.1 17
3.2 General infrastructure 41.6 50
3.2.1 Electricity output, kWh/cap 896.5 96
3.2.2 Logistics performance 279.0 85
3.2.3 Gross capital formation, % GDP 33.2 16
3.3 Ecological sustainability 42.3 46
3.3.1 GDP/unit of energy use 13.0 21
3.3.2 Environmental performance* 63.5 49
3.3.3 ISO 14001 environmental certificates/bn PPP$ GDP 0.6 83

---

### Market sophistication

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.2</td>
<td>93</td>
</tr>
</tbody>
</table>

4.1 Credit 26.3 101
4.1.1 Ease of getting credit* 45.0 88
4.1.2 Domestic credit to private sector, % GDP 64.0 52
4.1.3 Microfinance gross loans, % GDP 0.5 37
4.2 Investment 35.7 90
4.2.1 Ease of protecting minority investors* 58.3 61
4.2.2 Market capitalization, % GDP 49.6 31
4.2.3 Venture capital deals/bn PPP$ GDP 0.0 49
4.3 Trade, competition, & market scale 64.5 52
4.3.1 Applied tariff rate, weighted mean, % 3.8 75
4.3.2 Intensity of local competition* 70.1 61
4.3.3 Domestic market scale, bn PPP$ 3001.1 53

---

### Business sophistication

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.7</td>
<td>115</td>
</tr>
</tbody>
</table>

5.1 Knowledge workers 19.7 104
5.1.1 Knowledge-intensive employment, % 6.9 104
5.1.2 Firms offering formal training, % firms 26.3 59
5.1.3 GERD performed by business, % GDP 0.2 51
5.1.4 GERD financed by business, % 0.2 54
5.1.5 Females employed w/advanced degrees, % 0.0 n/a

---

### Knowledge & technology outputs

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.9</td>
<td>78</td>
</tr>
</tbody>
</table>

6.1 Knowledge creation 7.7 79
6.1.1 Patents by origin/bn PPP$ GDP 0.8 70
6.1.2 PCT patents by origin/bn PPP$ GDP 0.2 55
6.1.3 Utility models by origin/bn PPP$ GDP n/a n/a
6.1.4 Scientific & technical articles/bn PPP$ GDP 5.6 72
6.1.5 Citable documents H index 9.9 65
6.2 Knowledge impact 33.4 77
6.2.1 Growth rate of PPP$ GDP/worker, % 0.01 82
6.2.2 New businesses/th pop. 15–64 17.0 59
6.2.3 Computer software spending, % GDP 0.0 60
6.2.4 ISO 9001 quality certificates/bn PPP$ GDP 5.4 60
6.2.5 High- & medium-high-tech manufactures, % GDP 0.3 38
6.3 Knowledge diffusion 18.6 71
6.3.1 Intellectual property receipts, % total trade 0.0 87
6.3.2 High-tech net exports, % total trade 16.0 59
6.3.3 ICT services exports, % total trade 3.7 25
6.3.4 FDI net outflows, % GDP 0.06 65

---

### Creative outputs

<table>
<thead>
<tr>
<th>Score/Value</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.1</td>
<td>70</td>
</tr>
</tbody>
</table>

7.1 Intangible assets 49.5 40
7.1.1 Trademarks by origin/bn PPP$ GDP 53.9 42
7.1.2 Industrial designs by origin/bn PPP$ GDP 14.4 8 1
7.1.3 ITCs & business model creation 61.4 56
7.1.4 ITCs & organizational model creation 50.2 76
7.2 Creative goods & services 7.4 105
7.2.1 Cultural & creative services exports, % total trade 0.01 51
7.2.2 National feature films/million pop. 15–69 0.0 85
7.2.3 Entertainment & Media market/th pop. 15–69 0.08 95
7.2.4 Printing & other media, % manufacturing 0.07 77
7.2.5 Creative goods exports, % total trade 0.02 81
7.3 Online creativity 21.0 88
7.3.1 Generic top-level domains (TLDs)/th pop. 15–69 1.0 85
7.3.2 Country-code TLDs/th pop. 15–69 0.8 84
7.3.3 Wikipedia edits/million pop. 15–69 5.2 81
7.3.4 Mobile app creation/bn PPP$ GDP 2.7 71

---

**NOTES:** ● indicates a strength; ○ a weakness; • an income group strength; ▲ an income group weakness; * an index; ** a survey question.

Oindicates a strength; ▲ a weakness; X an income group weakness; * an index; † a survey question.