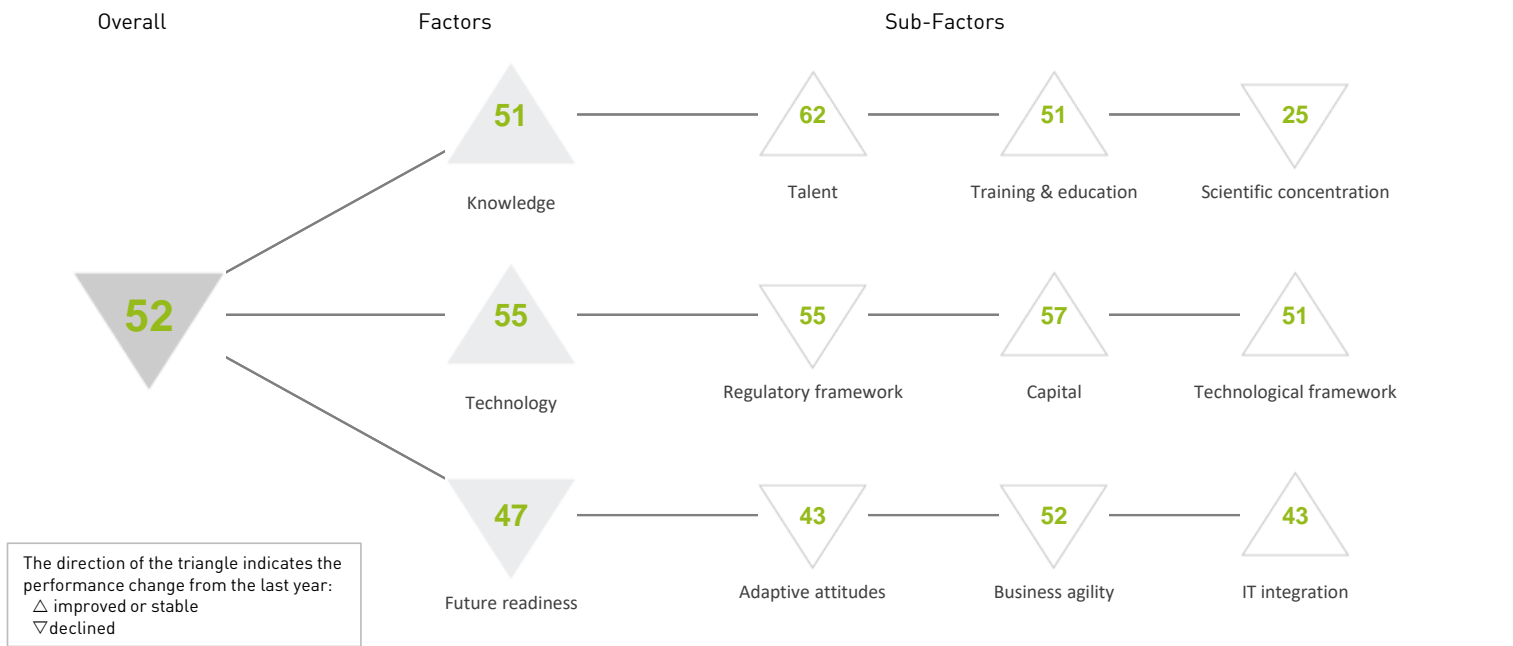


BRAZIL

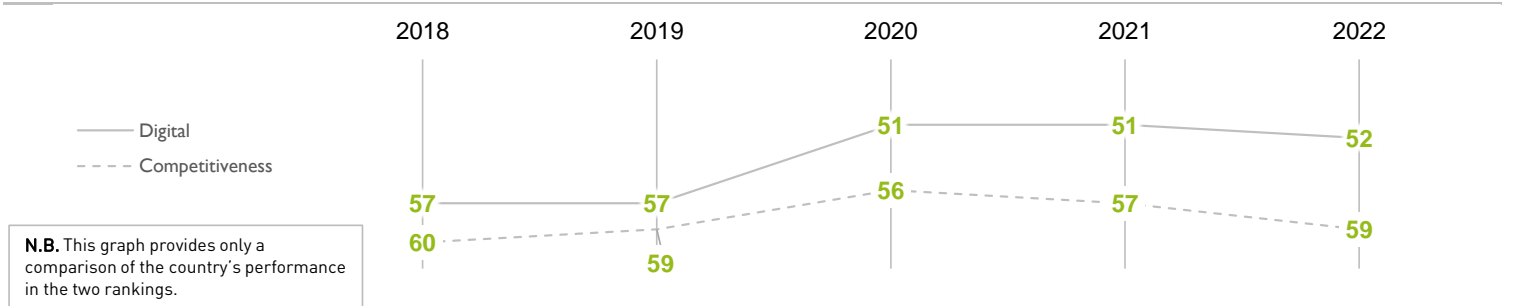
OVERALL PERFORMANCE (63 countries)



OVERALL & FACTORS - 5 years

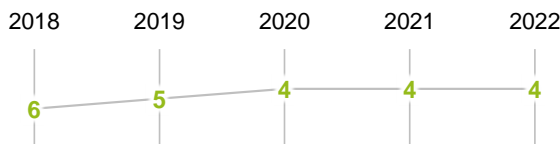
| | 2018 | 2019 | 2020 | 2021 | 2022 |
|------------------|------|------|------|------|------|
| OVERALL | 57 | 57 | 51 | 51 | 52 |
| Knowledge | 62 | 59 | 57 | 51 | 51 |
| Technology | 55 | 57 | 57 | 55 | 55 |
| Future readiness | 47 | 43 | 43 | 45 | 47 |

COMPETITIVENESS & DIGITAL RANKINGS



PEER GROUPS RANKINGS

THE AMERICAS (9 countries)



POPULATIONS > 20 MILLION (27 countries)



BRAZIL

▶ Overall Top Strengths

▷ Overall Top Weaknesses

KNOWLEDGE

| Sub-Factors | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------------|------|------|------|------|------|
| Talent | 61 | 61 | 62 | 63 | 62 |
| Training & education | 57 | 59 | 61 | 58 | 51 |
| Scientific concentration | 54 | 44 | 27 | 21 | 25 |

| Talent | Rank | Training & education | Rank | Scientific concentration | Rank |
|------------------------------------|------|--|------|-------------------------------------|------|
| Educational assessment PISA - Math | 53 | Employee training | 45 | Total expenditure on R&D (%) | 37 |
| ▷ International experience | 62 | ▶ Total public expenditure on education | 07 | Total R&D personnel per capita | - |
| ▷ Foreign highly-skilled personnel | 60 | Higher education achievement | 56 | ▶ Female researchers | 16 |
| ▷ Management of cities | 60 | Pupil-teacher ratio (tertiary education) | 44 | ▶ R&D productivity by publication | 08 |
| Digital/Technological skills | 60 | Graduates in Sciences | 54 | Scientific and technical employment | 35 |
| Net flow of international students | 43 | Women with degrees | 49 | High-tech patent grants | 44 |
| | | | | ▶ Robots in Education and R&D | 16 |

TECHNOLOGY

| Sub-Factors | 2018 | 2019 | 2020 | 2021 | 2022 |
|-------------------------|------|------|------|------|------|
| Regulatory framework | 59 | 57 | 52 | 51 | 55 |
| Capital | 56 | 61 | 58 | 59 | 57 |
| Technological framework | 47 | 47 | 50 | 51 | 51 |

| Regulatory framework | Rank | Capital | Rank | Technological framework | Rank |
|------------------------------------|------|--|------|------------------------------|------|
| Starting a business | 57 | IT & media stock market capitalization | 45 | Communications technology | 58 |
| Enforcing contracts | 41 | Funding for technological development | 59 | Mobile Broadband subscribers | 36 |
| Immigration laws | 26 | Banking and financial services | 56 | Wireless broadband | 48 |
| Development & application of tech. | 57 | Country credit rating | 56 | Internet users | 49 |
| Scientific research legislation | 59 | Venture capital | 52 | Internet bandwidth speed | 44 |
| ▷ Intellectual property rights | 60 | ▶ Investment in Telecommunications | 12 | High-tech exports (%) | 38 |

FUTURE READINESS

| Sub-Factors | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------|------|------|------|------|------|
| Adaptive attitudes | 38 | 33 | 39 | 40 | 43 |
| Business agility | 52 | 58 | 41 | 42 | 52 |
| IT integration | 51 | 49 | 48 | 49 | 43 |

| Adaptive attitudes | Rank | Business agility | Rank | IT integration | Rank |
|--------------------------------|------|---------------------------------|------|------------------------------------|------|
| E-Participation | 18 | Opportunities and threats | 42 | E-Government | 47 |
| Internet retailing | 43 | World robots distribution | 19 | Public-private partnerships | 55 |
| Tablet possession | 47 | Agility of companies | 50 | Cyber security | 59 |
| Smartphone possession | 33 | Use of big data and analytics | 60 | Software piracy | 36 |
| Attitudes toward globalization | 53 | ▷ Knowledge transfer | 61 | Government cyber security capacity | 25 |
| | | Entrepreneurial fear of failure | 27 | Privacy protection by law content | 29 |