

Title: Qatar's ICT Landscape & Digital Trends 2022

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Introduction:

The report aims to provide a comprehensive, supply-side view of Qatar's information and communications technology (ICT) sector. It is based on extensive research conducted by the CRA through a large-scale survey of approximately 400 ICT companies, 40+ stakeholder interviews, and workshops with 130+ participants. The objective is to inform policymaking, strategic initiatives, and business/investment decisions in Qatar's ICT industry.

Methods:

- Survey: A standard online/in-person questionnaire of over 1,400 ICT companies, with 362 valid responses received. Targeted active IT and telecoms firms in Qatar of different sizes, maturities, and local vs international. Assessed business profiles, operations, and perceptions.
- Interviews: 40+ one-on-one expert interviews with businesses, government entities, academia, innovators, and investors in Qatar's ICT sector. Focused on qualitative, in-depth perspectives on key research topics.
- Workshops: 1 roundtable and 3 topic-specific workshops with 130+ senior ICT professionals and leaders. Aimed to understand needs and opportunities from different stakeholder views.

Key Findings:

1. Fragmented IT segment
 - 80% of IT companies in Qatar have less than 50 employees, indicating a highly fragmented segment. In contrast, the telecom segment is concentrated and mature.
 - The fragmentation may limit economies of scale and workforce specialization.
2. Traditional tech focus
 - 40% of local IT firms rely solely on traditional tech, compared to 26% of international firms in Qatar.
 - Adoption of emerging tech like AI, blockchain, IoT trails global levels. This could impact competitiveness as these technologies drive innovation and efficiency.
3. Exports and competitiveness
 - Only 11% of Qatar-headquartered IT firms serve foreign markets, indicating untapped potential for exports.
 - Infrastructure pricing is above OECD levels, especially for fixed broadband. This impacts competitiveness.
4. Immigration policies

- 64% of firms trying to hire face difficulties. Visa regulations and processes were cited as key issues.
5. R&D and startups
- Government and academia drive most R&D while private sector participation is limited.
 - Despite recent growth, Qatar's startup ecosystem remains small. VC funding in 2021 was just 1% of MENA total.

Recommendations:

1. Improve competitiveness of the ICT industry:

- Enhance infrastructure pricing by bringing connectivity costs closer to international benchmarks through regulatory focus. High costs were found to limit sector growth and Qatar's competitiveness. Estonia did by liberalizing its telecom sector in the early 2000s which led to significantly reduced connectivity costs.

[Source1](#)

- Develop supportive data regulations that balance innovation and privacy, as exemplified by the EU's GDPR which provided flexibility while giving users more control over personal data.

[Source1](#)

- Provide targeted support for startups and SMEs to address common challenges like limited public procurement participation, access to finance and foreign talent. This will help them scale locally and have export potential. Singapore does through its Startup SG program that helps startups access funding, foreign markets and talent.

[Source1](#)

2. Develop local ICT talent:

- Expand upskilling programs that align with industry demand, as Brazil has done through its National Program for Access to Technical Education and Employment which provides stipends for STEM programs.

[Source1](#)

- Reform immigration policies to ease hiring of foreign talent, as Australia and Canada have done through startup visa programs to attract entrepreneurial talent.

[Source1](#), [Source2](#)

3. Promote greater integration of the innovation ecosystem:

- Increase collaboration between academia, government, and private sector across research, commercialization, and talent development. The lack of interconnections was highlighted as a key barrier for innovation. As exhibited by Germany's Fraunhofer model that has led to numerous commercial innovations and tech transfers.

[Source1](#)

- Engage national champions more to boost R&D, support startups, and localize ICT value chains. Their participation was found to be currently limited. Taiwanese semiconductor companies were pushed to invest in future wireless tech.

[Source1](#), [Source2](#), [Source3](#)

4. Increase public-private partnerships:

- Create initiatives that increase public-private engagement in R&D and startup support. Government currently drives most innovation while private sector participation is limited. Israel has done through its public-private incubator program that has supported over 2,000 startups.

[Source1](#)

Conclusions:

The overarching conclusion is that Qatar has strong potential and foundations to become a global digital leader, but still has some areas to focus on:

- Regulations and immigration policies limiting competitiveness and talent hiring need enhancement.
- Fragmentation and lack of collaboration exist across the innovation ecosystem.
- Commercialization of innovation outcomes is a key gap currently.
- Public sector participation in R&D and startup support exceeds that of private sector.

Limitations:

Some limitations of the study that may impact the conclusions and recommendations:

- The survey had 362 responses, which may limit generalizability across Qatar's entire ICT sector.
- As a supply-side study, demand-side insights are more limited.
- As a baseline study, no time series data exists yet to assess trends.
- The impact of macroeconomic factors and global digital trends is not fully analyzed.
- Benchmarking metrics are provided for only some dimensions, not comprehensively.

Possible effective use cases for how the FINDINGS/INSIGHT could be incorporated into Qatar's labor market information system:

1. Develop skills demand forecasts and gap analysis:

The data on high demand ICT roles like software developers, data analysts, and cybersecurity experts could inform forecasts of future skills needs. By comparing this demand to current workforce supply trends, skills gaps can be identified.

2. Shape ICT education and training programs:

The findings around emerging tech adoption, evolving skills demands, and need for upskilling can guide updates to university and vocational ICT curriculums. New programs and courses

can be introduced.

3. Inform immigration and workforce nationalization policies:

The challenges highlighted around attracting foreign talent and employing Qataris can feed into policy reforms around visa quotas, talent incentives, public sector wage structures.

Provide industry analysis - The market landscape overview across telecom, IT, infrastructure, investment, innovation can be synthesized into industry reports and knowledge sharing materials.

4. Develop a database of ICT firms:

The surveyed companies can form the basis of a searchable database of local IT/tech firms for talent recruitment, B2B sales, partnerships etc.

5. Conduct skills audits and skills matching:

Individual worker skills data could be collected through audits and matched to employer demands using the research insights.

6. Monitor trends over time:

Repeating the CRA study periodically would generate timeseries data to assess progress on key metrics like employment, wages, tech adoption.

In summary, the rich data and findings would significantly strengthen the capabilities and value derived from Qatar's labor market information system across strategic skills planning, policy insights, industry analysis and more.