Title: Qatar's manufacturing sector: Bridging the skills gap to drive sector growth
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Publication date: 2022

Introduction:
The report examines the manufacturing sector in Qatar, which is a priority sector under the National Vision 2030 program. However its GDP contribution fell to 7.2% in 2020, the lowest among GCC countries. Despite its previous top GDP contribution in the GCC, it has seen declines as other sectors expanded more rapidly. The Qatar Manufacturing Strategy seeks to rejuvenate this sector, emphasizing pillars such as increasing FDI, aiding SMEs, enhancing finance accessibility, promoting trade, fostering innovation, and nurturing local and international talents. Achieving growth necessitates the localization of essential skills and jobs. Six other sectors - Finance, Professional/Scientific Activities, Tourism, Logistics, Communications, and Manufacturing- are also recognized for economic diversification. The strategy further intends to bolster growth in sub-sectors like pharmaceuticals, agriculture, food processing, chemicals, machinery, and medical supplies, with a strong emphasis on both local and international human capital, as reflected in the In-Country Value concept.

Methods:
The report examines skill gaps in priority sub-sectors using data from sources like the World Bank and Labor Force Surveys. It evaluates changes using metrics such as manufacturing value added to GDP and estimates talent demand vs. supply for the manufacturing sector from 2022-2030. The research also forecasts the GDP impact of closing skills gaps in areas like pharmaceuticals and uses specific estimation techniques to model the effects of suggested interventions.

Key Findings:
- A skills gap of over 20,000 workers is projected between 2022-2030. The gap is largest where specialist skills are needed.
- The pharmaceutical sub-sector alone could see a gap equivalent to 96% of estimated demand. Meeting this demand could contribute an extra QAR 4.7 billion to GDP by 2030.
- Contributing factors include skills mismatches, static education offerings, low female participation (57% vs 87% for males), high economic inactivity especially among women and youth, preference for public sector jobs among nationals, and high reliance on expatriate workers (95% of employment).
- Increasing female and youth participation could help close the gap.
- Proposed interventions around planning, attracting, and developing talent could close the projected gap. Initiatives span expanding academic programs, technical training, specialized scholarships, private sector incentives, and visa policy revisions.

- Analysis estimates the skills gains and impact of each intervention on the talent supply. The highest gains are projected from easing visa restrictions for priority skills.
- Implementing all 5 interventions concurrently could sufficiently bridge the skills gap.

Recommendations:

Establish a Skills Observatory for skills planning and governance:

- A Skills Observatory can serve as a central agency for analyzing skills gaps, forecasting future needs, and coordinating initiatives between government, academia and industry.
- It should maintain updated skills frameworks mapped to industries, conduct labor market research, and provide authoritative projections of talent demand and supply.
- By benchmarking against observatories in Singapore, Bahrain and Saudi Arabia, best practices can be incorporated especially around robust monitoring mechanisms to track implementation progress. (https://www.skillsfuture.gov.sg/, https://bahrainbusinesslaws.com/laws/Labour-Fund-Law, https://www.arabnews.com/node/1522346/saudi-arabia)
- The Skills Observatory needs to move beyond theoretical skills gap identification to having an actionable mandate for execution, measurement and continuous improvement of skills interventions.

Enhance private sector incentives and pay to attract nationals:

- Financial incentives like wage subsidies have proven successful to an extent in Saudi Arabia for increasing workforce localization in the private sector. (https://ndf.gov.sa/en/fund/hrdf/)
- However, these need regular review to keep pace with evolving market dynamics. One-time subsidies may not have a lasting impact unless coupled with initiatives for career growth and skills development.
- Ultimately a mix of financial and non-financial incentives is needed, not just pay parity. The emphasis should be on growing a qualified and empowered national workforce.

Expand academic programs in priority skills:

- Strategically increasing capacity of education programs in skills critical for priority manufacturing subsectors can help bridge talent gaps.
- South Korea provides an example of aligning education policies to economic development needs. Qatar can emulate this for targeted disciplines. (https://asiasociety.org/global-cities-education-network/south-korean-education-reforms)
- Simply increasing program seats may not be effective. Maintaining high quality standards, like the UAE's vocational training framework, is crucial so graduates are industry-ready. Partnerships with industry for apprenticeships and real-world training are impactful models to explore. (https://u.ae/en/information-and-services/education/technical-and-vocational-education)

Introduce technical training and apprenticeships:

- Countries like Switzerland and Australia have robust apprenticeship models combining classroom and on-the-job training, leading to well-qualified workforces. (https://www.theatlantic.com/business/archive/2018/09/apprenticeships-america/567640/, https://www.voced.edu.au/content/ngv%3A12460, https://careertech.org/resource/gold-standard-the-swiss-vet-system)
- Qatar can draw on their expertise in creating its own ecosystem of skills-based training tailored for key industries like manufacturing.
- But the UK case highlights the need for thoughtful design and incentives to encourage employer participation. Tax breaks can be explored. (https://www.hrmagazine.co.uk/content/features/apprenticeship-levy-where-next-in-its-evolution/)
- Strong industry linkages and flexibility between training and employment are key success factors for technical skills development.

Offer strategic scholarships and student incentives:

- Egypt provides full government scholarships in subjects aligned to economic growth including medicine, engineering, sciences and tech. Saudi Arabia has the Human Resources Development Fund that offers full scholarships in areas like engineering, medicine and computer science where skilled talent is needed. (https://moe.gov.sa/en/education/highereducation/Pages/Scholarship.aspx, https://ndf.gov.sa/en/fund/hrdf/)
- Sustainability of funding for the scholarships also needs to be established upfront. Tapered co-funding where students bear part of the tuition over time can be explored.
- Such incentives are most effective when reserved for fields where talent gaps are very high and cannot be easily filled by expanding existing programs.

Revise visa policies for priority skills:

- Using empirical data to shape visa policy is a best practice, as seen in Singapore and Australia's migration programs based on skills shortages. (https://smartimmigration.sg/smart-visa/, https://immi.homeaffairs.gov.au/what-we-do/skilled-migration-program)
- But Qatar must balance bringing in niche foreign expertise while ensuring nationalization goals do not take a hit.
- Hence, calibrated changes are required based on detailed skills gap analysis, with extensive consultation among stakeholders to avoid pushback as seen in some GCC states.
- A phased approach starting with select priority skills may be prudent. Strong oversight on actual placement rates and impact is critical.

In summary, while the report provides useful recommendations, Qatar can customize its skills initiatives by drawing on global success stories and lessons learned. The keys will be local context adaptation, robust monitoring mechanisms, coordinated efforts between stakeholders, and taking a phased approach.

Limitations:

-The analysis relies on assumptions, estimates and projections. More primary local data would validate the findings.

Conclusions:

-Collaboration is imperative to develop vital skills and realize the manufacturing sector's full potential, in line with national strategies. Implementing the proposed initiatives now will provide momentum for growth.

Overview of the potential benefits, challenges, and relevant international examples for developing a labor market information system in Qatar:

Potential Benefits:

- Identify current and projected skills gaps in manufacturing subsectors to enable strategic workforce planning. Detailed gap analysis by occupation, skill level, and subsector will allow better alignment of workforce development initiatives to national priorities. Forecasting future needs will support more proactive planning.
- Inform development of targeted training and education programs tailored to priority skills needs. Insights on gaps in specific technical skills and occupations can guide education providers and training bodies to design relevant programs. Partnerships with industry can ensure training is aligned to real workforce needs. Expanding cohorts and curriculum in high-demand skills can help bridge gaps.
- Provide data-driven insights to design effective incentives and policy initiatives helping to bridge skills gaps. Understanding pain points like wage differentials and talent mismatches can help frame policies and incentives like scholarships, subsidies, career development support etc. that are evidence-based and address true underlying causes.

Potential Challenges:

- Over-reliance on secondary datasets without adequate primary research into local nuances. Secondary data provides a useful starting point but must be supplemented by field surveys, focus group discussions, expert interviews etc. to gather on-the-ground insights. These can validate assumptions and projections.
- Flawed projections if assumptions become outdated without real-time data inputs. The projections will need regular updates as economic and policy conditions evolve. Dynamic real-time data on vacancies, wages, migration etc. can enhance forecasting capability and accuracy.

- Coordination across stakeholders required for integrated LMIS development and use. A unified platform will need extensive collaboration between government agencies, education bodies, private sector, and experts. Clear governance and change management will be key.

International Examples:

- UK's LMI for All open data API system provides easy access to various labor market datasets through a single interface. The standardized structure and documentation enables developing customized apps and analysis.
- European Skills Index benchmarking framework allows structured comparison across countries on 30+ skills indicators. Country profiles identify strengths/weaknesses while the interactive dashboard visualizes insights.
- EMSI real-time labor market data and analytics system scrapes job postings, profiles, wages etc. to provide current insights on labor supply/demand. The granular data can inform program development and career planning.

Some potential use cases for incorporating the key insights and findings from the Qatar manufacturing skills gap report into the development of a LMIS for Qatar:

1. Skills Gap Database
    - Develop a database of current and projected skills gaps across manufacturing sub-sectors using the report's skills gap analysis.
    - Continually update with new data on talent demand, supply, and gaps. Provide API access to the skills gap data.
    - Allow filtering by sub-sector, occupation, skill level, time period etc. to identify priority gaps.
2. Training Program Development
    - Use skills gap data to inform development of new training programs and curriculum by education bodies and industry partners.
    - Align training capacities and cohorts to projected high-demand manufacturing skills.
3. Policy Development
    - Analyze skills gap data trends over time to identify structural and systemic issues requiring policy interventions.
    - Provide insights on potential policy initiatives e.g. incentives, wage subsidies, visa reforms to help address skills mismatches.
4. Career Guidance
    - Develop online portal/API for students and career counsellors mapping talent availability to skills demand and opportunities.
    - Guide career pathways based on projected high-growth manufacturing sub-sectors and priority skills.
5. Industry Collaboration Portal

- Create portal for industries to provide real-time demand data and collaborate on skills development initiatives.

6. Monitoring and Evaluation
   - Track effectiveness of interventions using skills gap metrics and incorporate insights to refine initiatives.

A phased approach to developing Qatar's LMIS, with extensive stakeholder engagement and impact evaluation, can help realize the benefits while mitigating the challenges.