Title: The Future of Jobs in the Era of AI
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Publication date: March 2021
Publisher: Boston Consulting Group

Introduction:
The introduction highlights that automation and AI will both eliminate and create jobs. However, the net job loss/gain figure is overly simplistic. The real picture is more nuanced. Governments, companies and individuals all need to understand the shifts to plan for the future.
BCG collaborated with Faethm to analyze the impact of technologies on jobs in the US, Germany and Australia. They developed detailed scenarios modeling workforce supply based on demographics, and demand using economic growth and technology adoption projections. The analysis looks at disaggregated effects to see the full picture beyond just net job loss/gain.

Methods:
The analysis categorizes jobs into 22 job family groups and 80-90 more granular job families. Workforce supply is modeled based on entries (graduates, migration) and exits (retirement, mortality). Demand is modeled based on economic growth and technology impacts. Two COVID-19 GDP impact scenarios were used - a baseline and a more severe projection. Technology impact was modeled using 3 adoption rates - high, medium and low. In total 6 scenarios were evaluated based on the 2 GDP and 3 technology variants.

Main Findings:
- All 3 countries face talent shortfalls in computer/math and healthcare roles, as technology drives demand but supply is limited. The US could see a computer/math shortfall of 6.1M by 2030.
- Office and production roles will see surpluses as they are automated. In the US, office and admin support surplus could reach 3M by 2030.
- Looking across all job families, the US could face a cumulative shortage of 17.6M in the baseline scenario by 2030. Germany may face a shortage of 3M.
- Germany's aging population and low birth rate will exacerbate shortages, as demand is constant/rising but supply will fall.
- Australia may see an overall surplus of up to 0.8M in severe pandemic scenarios, due to immigration cuts increasing supply short-term. But skills mismatches will remain.
- Faster technology adoption worsens shortages in some roles as demand increases, while slowing adoption lessens the impact.

- Beyond job losses, automation enables more strategic human roles as repetitive tasks are automated.
- Soft skills like creativity and emotional intelligence will become more valuable as they are harder to automate.

Recommendations:

Government:

1. Strategic Workforce Planning:
    - Do strategic workforce planning using advanced analytics to predict imbalances. Translate insights into policies. For example, Singapore has done this successfully by setting up an interagency committee. But India has struggled to align education with workforce needs, highlighting the need for coordination between government, academia and industry.
      Source1, Source2
2. Education and Reskilling:
    - Reform education to focus on meta-skills and make it more flexible. Create adult reskilling programs. For example, Estonia provides flexible training vouchers funded by payroll taxes, while the UK's apprenticeship levy has suffered from low employer engagement due to complex administration.
      Source1, Source2
3. Digital Platforms for Employment:
    - Build digital platforms to connect workers to jobs and training. For example, Singapore, Estonia and UAE have robust platforms, while Australia's has poor user experience showing the need for quality design.
      Source1, Source2, Source3, Source4
4. Social Safety Nets:
    - Update social safety nets to assist those struggling with transitions. For example, The Nordic countries have strong protections for displaced workers, unlike the US.
      Source1, Source2.
5. SME Support:
    - Support SME innovation through incentives and flexible regulations. For example, Israel and South Korea have successfully driven SME innovation, while Bangladesh has struggled due to rigid regulations.
      Source1, Source2, Source3

Companies:

1. Strategic Workforce Planning:
    - Do strategic workforce planning to identify gaps and address through upskilling/hiring. For example, automakers like BMW and Boeing do this well, while

retailers like JC Penney have suffered from poor planning.
Source1, Source2, Source3

2. Learning Culture:
   - Build a lifelong learning culture via on-the-job training in varied formats. For example, AT&T, Cisco and IBM have effective online learning programs compared to ineffective classroom training.
     Source1, Source2, Source3
3. Talent Recruitment:
   - Adapt talent recruitment to hire for willingness to learn over specific skills. For example, Apple and Google have adapted to hire unconventional talent, while HP and Nokia struggled due to narrow focus.
     Source1, Source2
4. Talent Retention:
   - Retain talent by upskilling for evolving needs. For example, companies like Patagonia, Salesforce and Adobe have strong retention programs, unlike rigid firms like Kodak.
     Source1, Source2, Source3

Individuals:

1. Continuous Learning:
   - Commit to continuous learning throughout career. For example, tech professionals in Silicon Valley constantly learn, unlike manufacturing workers who resist retraining.
     Source1
2. Focused Reskilling:
   - Focus reskilling on in-demand roles based on job insights. For example, coding bootcamps can build skills quickly, but low-quality programs can leave graduates with debt but no job prospects.
     Source1
3. Flexibility in Roles:
   - Remain flexible to change roles/careers as demands shift. For example, startup employees in China readily switch roles, enabled by job-hopping culture, unlike lifetime employment norms in Japan.
     Source1, Source2

Limits:

- Analysis relies on assumptions for economic growth and technology adoption rates, which are uncertain.
- Findings may not apply evenly across countries due to differing demographics.
- Granular data is needed for accurate modeling.

Conclusions:

The report concludes that countries and companies need to understand potential workforce imbalances through advanced analytics. They should focus on managing the workforce transition through training and new recruitment approaches to build an adaptive workforce.

Governments should update education for flexibility and skills needed in the digital economy. Companies should invest in upskilling and new talent models. Individuals should pursue lifelong learning.

Those who fail to adapt will face talent shortages and be unable to capitalize on technology's opportunities. Making investments to build a future-ready workforce now is urgent.

Relevance to Qatar's LMIS

1. **Qatar labor market background summary:**

I. Qatar's Economic and Population Overview:

- Qatar has undergone rapid growth but has a small native population, requiring an expatriate workforce that comprises 90% of the total population and labor force. This expatriate population primarily consists of low-wage migrant workers from South/Southeast Asia.

  Source1, Source2

II. Work in Qatar:

- The labor market has a dichotomy between the public sector dominated by well-paid citizens, and the private sector relying majorly on temporary low-wage expat labor. This has created challenges around workforce nationalization and wage disparity.

  Source1, Source2

III. Issues with Qatar's Workforce:

- Additional issues include skills mismatches with many expats lacking higher-value skills. High expat turnover also inhibits workforce development. Migrant dependence has led to workers' rights issues around fees, living conditions, wages and mobility.

  Source1, Source2

IV. Qatar's Future Goals:

- As Qatar seeks to transition to a knowledge economy and reduce hydrocarbon dependence, developing human capital and an integrated global workforce are rising priorities. Government reforms have been launched around administration, nationalization, skills development and expat protections, but transforming the labor market remains a long-term challenge.

  Source1, Source2

2. **Some thoughts on applying the findings from the report to the LMIS in Qatar:**

I. Potential Advantages:

- Workforce forecasting models tailored to Qatar could provide visibility into future imbalances and personnel needs, especially in priority sectors like education, energy and construction which currently face mismatches. This would enable more proactive planning by government and businesses.
- Granular insights on occupational gaps could inform policymaking around immigration, training, and workforce development initiatives. Resources could be concentrated on reskilling citizens for roles most in need.
- Understanding potential technology impacts could drive investments in digital skills training and human-collaboration roles. Curricula could be updated to prepare Qataris for augmented jobs.
- Anticipating automation redundancies could motivate expanding social safety nets and employment support programs to aid transitions.
- Access to best practices around online talent platforms could encourage developing similar tools, improving efficiency of matching citizens to job and training opportunities.
- Forecasting future work could prompt updating labor regulations to support more flexible careers and skills-based hiring, improving mobility and employability.

II. Potential Challenges:

- Inadequate data availability and sharing between agencies may hinder building an integrated workforce analytics system.
- Cultural inertia and public sector attachment among citizens may impede adoption of continuous training and private sector roles.
- The temporary nature of expat contracts inhibits employers investing in developing their skills.
- Specific norms in Qatar like preference for public sector careers may create unique obstacles in implementing recommendations.

3. **Possible important and high-impact use cases by applying the findings from the report into Qatar's LMIS design:**

I. Develop localized forecasting models to identify future occupational imbalances:

- Replicating the report's data-driven approach to forecast supply and demand at granular occupational levels could provide Qatar with critical insights into upcoming talent gaps and surpluses. This would enable evidence-based, proactive workforce planning and policymaking.

II. Use skills gap analysis to inform education and training priorities:

- Leveraging rich labor market information to analyze skills mismatches can help Qatar strategically align education and training initiatives to priority areas. This helps develop human capital for knowledge economy goals.

III. Build an integrated workforce development ecosystem:

- A comprehensive system could synergize online job matching, skills assessments, training navigation tools and predictive analytics. This creates a seamless experience from displacement risk alerts, to counseling, relevant reskilling and job placement.

IV. Promote continuous learning and flexible career progression:

- Services like regular skills audits, personalized advice and lifelong learning accounts can help workers upskill continuously. Policy incentives for skills-based hiring and lateral mobility facilitate adaptable careers.