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*Vision 2030 and the Socio-Economic Reform
Process: The Future of Labour and Migration in
Saudi Arabia*

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High-Skilled Employment and Vision 2030: How Education and Training for Saudi Youth Align with Saudi Labour Market Demands

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Executive Summary

Vision 2030, Saudi Arabia's ambitious reform plan, aims to diversify the economy and reduce dependency on oil by fostering a competitive, knowledge-based economy. Central to this vision is the development of a highly skilled workforce¹. By exploring the intersection of education, training, policy and labour market demands in the Saudi context, the importance of the preparation of Saudi youth for high-skilled employment in high-demand fields such as healthcare, engineering, and technology is a high priority. One of the primary challenges to overcome is ensuring that the education system evolves so that Science, Technology, Engineering and Mathematics (STEM) majors are in tandem with the private sector needs². Training programmes are crucial in bridging the gap between theoretical knowledge and practical application, ensuring that graduates are better equipped with hands-on experience to meet the demands of the Saudi labour market³. Although, the pace of change in the job market is often faster than the rate at which educational outcomes are produced, this gap can be narrowed through training for the practical and soft skills needed to overcome the shortage of candidates in high-growth industries. In this process of addressing labour market mismatch issues, where the skills or qualifications of job seekers do not align with the employers' needs, governments, businesses, and educational institutions should collaborate on developing a multi-pronged approach for upskilling (improving existing skills) and reskilling (teaching new skills) workers to help them adapt to technological and industrial changes.

As Saudi demographics are changing with a significant increase in the working-age population, there will be a need to create around 920,000 additional jobs by 2030⁴. Knowing that SMEs account for approximately 60 percent of all jobs in Saudi Arabia and considering the role women play in driving economic growth through various initiatives in the entrepreneurial ecosystem, prioritising women's entrepreneurship programmes is essential for a more inclusive and sustainable economic future. The

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impact of entrepreneurial initiatives is not only limited to job creation but also extends to reducing unemployment among women, especially for those who still favour working within approved societal norms, as they can start their own businesses.

The broader implications for migration trends indicate that as Saudi Arabia works to bridge the gap between education and industry needs through training and upskilling its workforce, there will be both direct and indirect effects on migration patterns, particularly in terms of labour mobility, talent attraction, and demographic shifts. In the short to medium term, there will be a need to attract skilled and talented migrants, especially those with expertise in emerging industries such as AI, cybersecurity, green technologies, and advanced manufacturing. This shift could lead to a more competitive global talent market, where countries, including Saudi Arabia, increasingly focus on creating attractive environments for skilled migrants. As a result, Saudi Arabia could emerge as a regional hub for talent, particularly within the Gulf Cooperation Council (GCC) countries. Saudi Arabia may continue to see a large influx of foreign workers in key sectors such as construction, healthcare, and education where local expertise is scarce. The challenge will be to balance the need for international talent with fostering the growth of domestic skills to gradually reduce dependency on foreign workers.

Introduction

Saudi Arabia is investing heavily in building a highly educated and trained workforce capable of fulfilling workforce needs in sectors like healthcare, technology, tourism, and renewable energy—sectors that are especially integral in fulfilling the Vision 2030 goal of reducing the country's dependency on oil. This diversification can be achieved by focusing on three pillars: education, training, and labour market policy with the goal of preparing Saudi youth for high-skilled jobs of the future.

From a microeconomic perspective, the wider the gap between the skills needed by employers, and the skills the labour force has to offer, the higher the unemployment rate, especially among the younger population. The terms “high skilled workforce” or “high skill labour market” refer to individuals who have received an advanced education or specialised training and who have gained significant expertise in a particular field, enabling them to perform complex tasks, solve problems, make decisions, and perform other duties beyond basic or routine job functions⁵. Saudi Arabia's Vision 2030 underscores the strategic importance of developing a high-skilled workforce to drive its economic diversification and global competitiveness. Addressing skill mismatches, fostering gender inclusion, and expanding entrepreneurial opportunities are essential to achieving these goals and in empowering its youth to meet the demands of a rapidly evolving global economy.

Higher Education and Training Outcomes and Challenges

There were around 207,000 (98 percent of them Saudi nationals) university graduates in 2021 from 51 universities across Saudi Arabia. Of those, 84 percent graduated with a bachelor's degree, 62 percent of them females. Most degrees were concentrated in the business, law, and management fields, followed by humanities and natural sciences. Generally speaking, males tend to opt for STEM majors, which are more technical areas of study such as engineering and manufacturing fields, while a greater number of female graduates earn their degrees in humanities majors, opting for more traditional roles such as those in education and healthcare. This results in an imbalance in gender among graduates which then spills over into the labour market.

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Saudi Arabia has seen a substantial increase in the number of university graduates, from 200,000 in 2015 to over 300,000 in 2023. However, challenges remain in addressing the above-mentioned skill gaps and gender disparities, particularly in STEM fields, resulting in many graduates facing difficulties finding employment that matches their qualifications and employers facing difficulties in finding employees who meet their labour needs.

To bridge the skill gap, companies like Saudi Aramco and STC have launched training programmes that align with industry needs, resulting in higher employability rates for participants. Other implemented programmes designed to help meet labour market needs are the *Tamheer* and *Forsa* programmes that offer practical training opportunities. Still, while the demand for high-skilled workers, particularly in technology, healthcare, and engineering has surged since the launch of Vision 2030, only 30 percent of graduates in engineering and technology are deemed fully qualified for private sector positions, highlighting the critical need for further enhanced curricula and training programmes.

Job Creation and Entrepreneurship

While the Saudi demographics are witnessing a significant increase in the working-age population, it is estimated that around 920,000 additional jobs will need to be created to meet the work demand. The impact of entrepreneurial initiatives on job creation is significant. As more women and youth start their own businesses, the number of jobs created rises. This is crucial in addressing youth unemployment, which stood at around 25 percent for those with degrees in STEM fields as of 2023. According to the Saudi Small and Medium Enterprises Authority (Monshaat), the number of registered SMEs increased from approximately 800,000 in 2020 to over 1.4 million by 2023, reflecting a 75 percent growth in just three years. Female enrolment in higher education has increased significantly, with women comprising 62 percent of graduates by 2023 as noted earlier. Efforts to boost female participation in STEM fields and entrepreneurship have shown promising results, with the female entrepreneurship rate rising from 17 percent in 2018 to 24 percent in 2023. Entrepreneurship plays a critical role in job creation and economic diversification. Programmes like *Monshaat* have supported over 30,000 SMEs, contributing significantly to reducing youth unemployment and fostering innovation.

Saudisation and Workforce Localisation

The *Nitaqat* programme as part of the Saudisation initiative presented a positive trend toward increased local workforce participation^{6 7 8}. Since its launch in 2011 by the Saudi Ministry of Human Resources and Social Development (MHRSD), the goal has been to enhance the employment of Saudi nationals in the private sector and reduce reliance on foreign labour. As of 2023, statistics show that the overall percentage of Saudi nationals employed in the private sector has increased to approximately 33 percent, up from around 24 percent before the programme's implementation in 2011. Current and targeted Saudisation percentages in key STEM sectors are as follows (Table 1):

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Table 1: The current and expected Saudisation percentage between 2023 to 2030 in STEM sectors.

| Field/ industry | Current Saudisation percentage (2023) | Target Saudisation Percentage (2030) | Current Foreign Expatriate Percentage (2023) |
|------------------|---------------------------------------|--------------------------------------|--|
| Healthcare | 25% - 30% | 70% - 75% | 40% - 50% |
| Technology | 20% - 30% | 50% | 70% - 50% |
| Engineering | 20% - 25% | 40% -50% | 75% - 80% |
| Finance | 30% - 40% | 50% | 60% - 70% |
| Data | 15% - 20% | 50% | 80% - 85% |
| Renewable energy | 10% - 15% | 30% - 50% | 85% - 90% |

Source: Estimated data from Nitaqat Mutawar Programme | Ministry of Human Resources and Social Development and NLO Saudisation report, 2024, Vision 2030 Annual Report 2023⁹

This initiative not only supports economic growth but also aims to empower women and enhance their participation in various sectors, contributing to broader social and economic development goals. Table 2 summarises the expected growth in employment in technology, engineering, healthcare, and finance as examples of high demands sectors, along with percentage of Saudisation in each sector.

Table 2: Estimated growth rate for high demands sectors in Saudi labour market and Saudi employee in each sector by 2030

| Sector | Expected Growth Rate (%) by 2030 | Saudi Employees (%) | Foreign Employees (%) | Key drivers |
|-------------|----------------------------------|---------------------|-----------------------|--|
| Technology | 20% | 70% | 30% | Digital transformation, increasing tech adoption |
| Engineering | 15% | 60% | 40% | Major infrastructure projects and investments |
| Healthcare | 10% | 65% | 35% | Growing population and healthcare needs |
| Finance | 8% | 75% | 25% | Expansion of financial services and fintech |

Source: Estimated data from Nitaqat Mutawar Programme | Ministry of Human Resources and Social Development and NLO Saudisation report, 2024, Vision 2030 Annual Report 2023¹⁰

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Challenges and Opportunities

While significant progress has been made, challenges persist in ensuring that educational reforms keep pace with labour market demands. Opportunities lie in expanding vocational education, enhancing industry collaboration, and adopting global best practices to address skill mismatches. Together, they will be instrumental in producing graduates with the technical, practical, and soft skills tailored to industry needs, especially in STEM fields. Training programmes such as Tamheer and Forsa are crucial in bridging the gap between theoretical knowledge and practical application, ensuring that graduates are better equipped with hands on experience to meet the demands of the labour market. Addressing skill mismatches is critical for Saudi Arabia's transition to a knowledge-based economy. By aligning education and training with market needs, fostering entrepreneurship, and empowering women, Saudi Arabia can build a competitive workforce that supports economic diversification and growth.

Conclusions and Recommendations

Addressing the skill mismatch is crucial for Saudi Arabia's long-term economic development, especially as the country moves towards a diversified economy beyond oil. Bridging the gap between education and industry needs, enhancing vocational training, and equipping workers with future-oriented skills will be key to reducing unemployment and boosting productivity. Addressing labour market mismatch issues, where the skills or qualifications of job seekers do not align with the needs of employers, requires a multi-pronged approach. Governments, businesses, and educational institutions should collaborate to provide programmes for upskilling (improving existing skills) and reskilling (teaching new skills) workers and university graduates as this will help them to adapt to changes in technology and industry needs.

The reforms in Saudi Arabia aimed at addressing skills mismatch and fostering a more diversified, knowledge-based economy are likely to have several important implications for future migration trends. As the country works to bridge the gap between education and industry needs, upskill its workforce, and enhance vocational training, there will be both direct and indirect effects on migration patterns, particularly in terms of labour mobility, talent attraction, and demographic shifts. Pivoting towards non-oil sectors like technology, renewable energy, healthcare, and tourism increases demand for skilled workers in specialised fields, while the Saudi government focuses on upskilling and reskilling young domestic workforce. Thus, there will still be a need to attract skilled and talented foreign workers in the short to medium term—especially those with expertise in emerging industries such as AI, cybersecurity, green technologies, and advanced manufacturing. This shift could lead to a more competitive global talent market, where countries, including Saudi Arabia, increasingly focus on creating attractive environments for skilled migrants through initiatives like expedited work visas, job matching programmes, and incentives for international professionals, such as tax-free income, health care benefits, housing allowance, and family accommodation. In line with efforts to diversify the economy and increase Saudisation, Saudi Arabia may continue to see a large influx of foreign workers in key sectors such as construction, healthcare, and education where local expertise is scarce. The challenge will be to balance the need for international talent with fostering the growth of domestic skills to gradually reduce dependency on foreign labour.

As Saudi Arabia's economic diversification takes shape, the country could also become a regional hub for talent, particularly within the GCC countries. If Saudi Arabia's Vision 2030 reforms succeed in creating an attractive job market, it may draw workers not only from traditional labour-sending countries like India,

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Pakistan, and Egypt but also from neighbouring GCC nations, where skill gaps in specialised industries are emerging. This could lead to greater intra-regional migration as workers from the wider MENA region seek new opportunities in Saudi Arabia's evolving economy. With Saudi Arabia's push to become a global player in technology and innovation (e.g. with initiatives like NEOM and investments in tech startups), attracting high-level researchers, entrepreneurs, and specialists from around the world could significantly impact migration patterns. The establishment of tech hubs, science parks, and international research collaborations would increase the inflow of highly educated professionals. Furthermore, the country's increased focus on education and research institutions could help shape migration patterns as students and academics choose Saudi Arabia for their studies and careers.

The multifaceted policy approach to addressing Saudi Arabia's skills mismatch will not only reshape the country's labour market but also likely have broader implications for migration trends. On one hand, the country may experience increased inflows of skilled professionals from abroad to meet emerging needs in high-tech and specialised industries. On the other hand, the focus on building local talent could reduce the country's reliance on low-skilled foreign labour, fostering a more balanced labour market over time. The success of these policies will determine how effectively Saudi Arabia can attract and retain talent, both domestically and internationally, as it continues to evolve into a knowledge-based economy.

Endnotes

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- 1 Al-Gahtani, Saad F. 2024: Saudi Arabia's Journey toward a Renewable Future, *Energies* 17, 2444, in: <https://doi.org/10.3390/en17112444>.
 - 2 Abdullateef, Shifan T. / Alsheikh, Rabab M. / Mohammed, Bahia K. 2023: Making Saudi vision 2030 a reality through educational transformation at the university level, *Labour and Industry*, 33(2), pp. 225-240.
 - 3 Alsughayer, Sulaiman A. / Alsultan, Nuha 2023: Expectations gap, market skills, and challenges of accounting education in Saudi Arabia, *Journal of Accounting, Finance and Auditing Studies*, 9(1), pp. 22-60.
 - 4 National Labor Observatory 2023: Employment prediction report, [Report], in: <https://nlo.gov.sa/landing/reports?pn=1&pz=10&obd=&lang=ar&t=&q=&Category=report&year=&curent=1>.
 - 5 Oliinyk, Olena / Bilan, Yuriy / Mishchuk, Haylna / Akimov, Oleksander / Vasa, László 2021: The impact of migration of highly skilled workers on the country's competitiveness and economic growth, *Montenegrin Journal of Economics*, in: https://mnje.com/sites/mnje.com/files/007-019_-_bilan.pdf.
 - 6 Aljohani, Mohammed 2023: Comparative Analysis of Employment Trends in the Labor Market of Saudi Arabia: A Case Study, 2017 to 2022, *Eximia*, 6, pp.137-145.
 - 7 Bin Judai, Mohammad Saif N. 2022: Saudi Employment in the Wholesale-Retail and Construction Industries in the Saudi Private Sector: A Comparative Causal Study for Policy Analysis (Doctoral dissertation, Victoria University).

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- 8 Nataraj, Shanthi / Shatz, Howard J. / Constant, Louay / et al. 2021: A targeted industry approach for raising quality private-sector employment in Saudi Arabia, RAND, in: https://www.rand.org/pubs/research_reports/RRA536-1.html .
 - 9 National Labour Conservatory 2024: Nitaqat Mutawar Programme | Ministry of Human Resources and Social Development and NLO Saudisation report, 2024, Vision 2030 Annual Report 2023, in: <https://nlo.gov.sa/landing/reports/report-details/558?lang=ar>
 - 10 Ibid.

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