

Research Article

Summary

United Nations Economic and Social Commission for Western Asia. (2022). *The Arab region may be missing the fourth industrial revolution: Arab skills are still stuck in the past*. United Nations. Retrieved from <https://www.unescwa.org/sites/default/files/pubs/pdf/arab-region-missing-fourth-industrial-revolution-english.pdf>

Core Concept(s)

As the fourth industrial revolution progresses, the development of human resources capable of adapting to new technologies has become a global issue. In the Arab countries, traditional industries are the mainstream and have lagged behind in this response, making structural transformation an urgent task. However, previous studies contributing to labor market reform in Arab countries are not sufficient.

This document provides a detailed analysis of the actual labor market conditions in Arab countries based on the latest findings of the Economic and Social Commission for Western Asia (ESCWA). The main findings include delays in responding to new skills, sluggish participation of women and persons with disabilities, and delays in establishing telework under pandemic conditions. These challenges are faced by Qatar as well.

For labor market reform, the introduction of technologies related to the 4th industrial revolution, human resource diversification, and digital infrastructure development should be positioned as core concepts in the national vision and labor policy. This document provides guidelines for such policymaking.

Scope of Research

The purpose of this document is to provide guidance for policymaking by analyzing big data from more than 1.7 million online job postings in Arab countries using the "Skills Monitor" tool developed by ESCWA to identify skill demands and challenges in the labor market. The analysis covers job postings from June 2020 to March 2022 in 19 ESCWA member countries. Skills Monitor utilizes machine learning and natural language processing to visualize the demand for skills from job postings

and creates a "skill forest" that shows the correlation between occupations based on common skills. However, analysis based solely on data collected from online information has its limitations.

Through these research methods and analysis processes, the most in-demand skills in the labor markets of Arab countries have been identified, and the relationship with skills related to the 4th Industrial Revolution and the current status and challenges of gender equality and employment of people with disabilities have also been grasped. Based on these results, policy guidelines for improving workers' skills and expanding employment opportunities are proposed. Continued monitoring will be essential in the future.

Implications of Findings

The findings of this report have important implications for the feasibility of the Fourth Industrial Revolution and human resource development in the Arab region. Specifically, the following key findings are presented.

Responding to Technological Innovation and Educational Reform : The Arab region is dominated by resource-dependent industries, and more than 60% of the workforce is employed in medium- and low-skilled jobs with a high risk of automation. On the other hand, the region is lagging far behind in adapting to technologies related to the 4th Industrial Revolution and is being left behind in global trends. This is mainly due to the obsolescence of the education system and curriculum, which has created a major mismatch between the education attained and skills in demand. The urgent issue is to produce human resources capable of acquiring new digital skills such as cloud computing and AI through educational reforms such as strengthening science fields and expanding practical education. Only through this can highly skilled human resources be developed and the economic structure be upgraded. Joint efforts by governments and educational institutions are needed to ensure that labor market participants acquire appropriate demand skills. In addition, the establishment of a labor market information system will be effective in reducing labor market information gaps and creating an appropriate skills upgrading/reskilling environment.

Gender Equality and Inclusion of People with Disabilities : According to this document, the labor participation rate of women in the Arab region remains among the lowest in the world. To improve this, it is recommended that expanding entry

opportunities through the expansion of flexible work systems and the development of teleworking systems would be effective. In addition, although there is a legal employment rate system for persons with disabilities, employment opportunities for persons with disabilities are limited due to the low effectiveness of the system, with only a few countries actually meeting the actual employment rate. Statistics on the number of persons with disabilities themselves are also inaccurate, and the actual situation is not well understood. In addition to flexible work systems, it has been analyzed that the development of job hubs that are accessible to people with disabilities and the expansion of educational access opportunities are essential for the inclusion of people with disabilities.

Future Jobs and Skills Change : This document finds that the average AI scoring in the Arab region is low at 36%. On the other hand, there is currently a high percentage of employment in medium- and low-skilled jobs that will be exposed to high risk of automation. In addition, there are wide disparities in national readiness for AI and other future technologies, which on average are below the global average. These factors hinder adaptation to new skills and industrial upgrading, indicating the urgent need for reforms in both education and industrial policy, including promotion of skills development, renewal of educational curricula, and accelerated infrastructure development.

Strategies to Achieve the SDGs : In this document, by mapping job data for the Arab region to each of the SDG goals, the reality of a wide range of issues, such as social development and environmental conservation, was revealed. In order to achieve the SDGs, not only economic measures such as skills development and infrastructure improvement, but also fundamental reforms of social systems and culture, such as reform of the education system and elimination of discrimination, are indispensable. Without these reforms, sustainable and inclusive development in the Arab region cannot be expected.

National Strategies and Impact on Local Economies : This document shows that adaptation to future technologies in Arab countries is currently below the global average, including a low AI scoring of 36% and the state of e-commerce environment development. In addition, the labor participation rate of women is among the lowest in the world. These data indicate that "people-centered policies" such as educational reform and support for reskilling are essential, in addition to economic strategies such as skills development and

infrastructure improvement. A national strategy that places human resource development as a central issue will draw out the potential of the Arab region and strengthen its international competitiveness.

Limitations

The analysis in this document is based on more than 1.7 million online job postings in Arab countries. Although this is the time period and the target countries for the purpose of analyzing the impact of the new coronary disaster, a major limitation exists in the fact that the analysis targets only online information. This is because the data is likely to deviate from the actual number of workers, labor force surveys, and other statistical data, and does not accurately capture skill demand by industry, occupation, or region.

For example, the analysis showing that more than 60% of the workforce is employed in medium- and low-skilled jobs with a high risk of automation is derived solely from the number of online job openings, which may differ from the actual number of workers. In addition, although women's labor participation is said to be low, it does not reflect their employment in the informal sector, which may be out of line with the actual situation.

Therefore, it is essential to conduct careful analysis by industry sector, occupation, country, and region, taking into account data from actual labor force surveys and census data. This will provide knowledge that will contribute to more appropriate policymaking in accordance with the actual conditions in each country and region. It should be especially noted that the results of the analysis in this document are only one indicator, and that microscopic verification is essential.

Summary

This document analyzes big data on online job postings in Arab countries to identify the actual demand for skills and challenges in the labor market. Key findings include: a divergence from global trends, such as reliance on business management skills and underutilization of skills related to the 4th industrial revolution; limited employment opportunities for women and people with disabilities; and a delay in establishing telework under pandemic conditions. These suggest the need for fundamental reforms ranging from education to social systems.

Although there are limitations in the online information available for analysis, the key to solving these issues lies in a national strategy that

includes an understanding of the actual situation by industry, occupation, and region, as well as institutional reform. The policy guidelines proposed in this document will be useful in contributing to structural transformation and sustainable development in the Arab countries.

Possible use cases in Qatar's LMIS

Many of the challenges identified in this document for Arab countries are likely to be faced by Qatar as well. In particular, the expansion of employment opportunities and skills development for women and persons with disabilities are pressing issues common to the world. The proposed use case for a labor market information system in Qatar is therefore to build a system that focuses on these two aspects.

Specifically, the construction of a "Skills Passport" system (Skills Passport / OpenCerts.) for women and persons with disabilities. The system matches the skills and qualifications profile of the individual with the job information. At the same time, the necessary reskills courses will be recommended. For example, if a wheelchair-bound woman is certified as a Microsoft Office Specialist, she is matched with a work-from-home position in office work. At the same time, a program to acquire data analysis skills would be presented. Matching and skill development through such a system would enable the development of highly effective measures for the target population.

The main issues to be considered when implementing the system include the following:

- Motivation of target persons to use the service
- Difficulty in precisely matching skills and job needs
- Development of educational content such as reskilling courses
- Standardization and security necessary for system integration
- Monitoring and improvement of service usage after deployment

To solve these issues, for example, a highly reliable system infrastructure using blockchain technology could be built, and reskilling courses could be enhanced by providing incentives such as subsidies for course fees.

We believe that by promoting public-private data collaboration and utilizing the latest technologies, these issues can be resolved and a useful labor market infrastructure can be built.

Reference List

Skills Passport / OpenCerts. (n.d.).

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<https://www.myskillsfuture.gov.sg/content/portal/en/header/faqs/SkillsPassport.html>

Related Readings

Aboraya, M. E. ., Yousef, E. ., El taher, M. . ., & Elzaby, L. . (2023). The Fourth Industrial Revolution and the Teaching of Social Sciences in Higher Education Institutions under the Covid-19 Pandemic. A study on a Sample of Faculty Members in Arab Universities. *Dirasat: Human and Social Sciences*, 50(2), 302–314.

<https://doi.org/10.35516/hum.v50i2.4939>