

# The Arab region may be missing the Fourth Industrial Revolution

## Arab skills are still stuck in the past



Shared Prosperity Dignified Life



E/ESCWA/CL2.GPID/2021/3/POLICY BRIEF



## Introduction



Technologies such as robotics, the Internet of Things (IoT) and artificial intelligence (AI) are providing opportunities in many places, while causing significant disruptions in others. The COVID-19 pandemic has expedited the automation of many tasks, and created a substantial shift in labour markets worldwide, where new skills will be demanded while others will become obsolete. This document presents a summary of an ESCWA report, where results from the newly developed ESCWA Skills Monitor have been used to analyse whether the type of skills and jobs demanded in the region address the needs of the Fourth Industrial Revolution and the new era of economic development. To better relate to the future of work, the analysis reveals whether Arab labour markets are demanding tomorrow's skills, are gender and youth inclusive, and whether demanded jobs can be linked to the Sustainable Development Goals (SDGs).

Looking closely at gender inclusion, the analysis has established that online job postings unintentionally avoid gender bias in their demand for skills, but job advertisements themselves are discriminatory by explicitly mentioning the needed gender for a set of skills that can be done by either women or men. The average AI scoring for the region is around 34 per cent, indicating a low level of AI augmentation for tasks conducted in the region. Moreover, the regional Skills Forest indicates that the Arab region has a core cluster in business administration-related skills and jobs, and is not heavily diversified in science-related fields. If this trend persists, the Arab region may once again be missing the opportunity for a successful structural transformation by sticking to traditional sectors and subsectors where labour substitution may be on the rise.



## Key messages

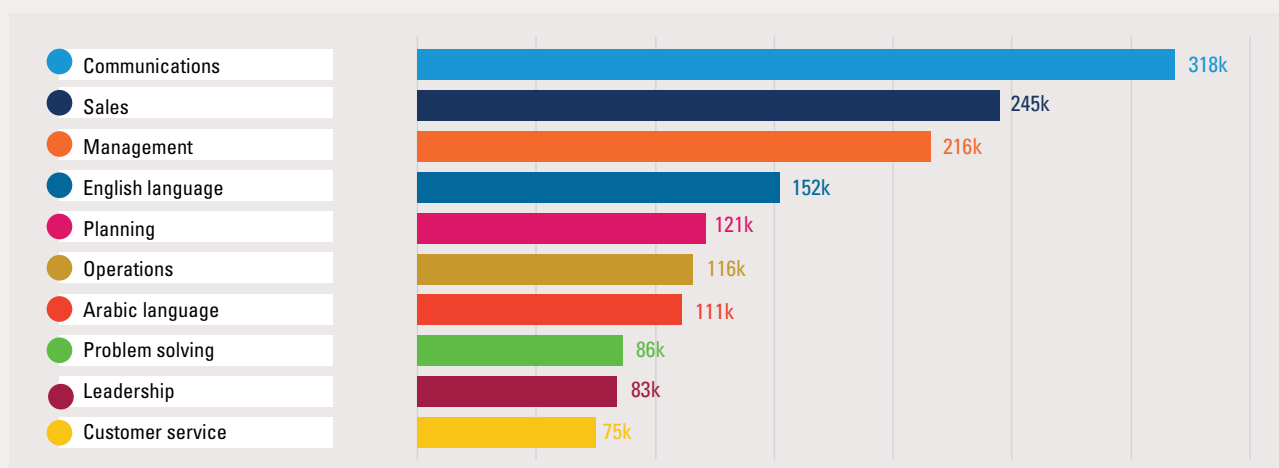


# 1.

**Unlike global trends, there is a large gap in technological adoption in the Arab region.** This is reflected in the high demand for traditional skills in 1.7 million jobs. Communication is the most demanded soft skill. As the COVID-19 pandemic had demonstrated, communication is a cornerstone of new work. Despite its importance, communication did not make it to the list of globally most demanded skills list in 2021.

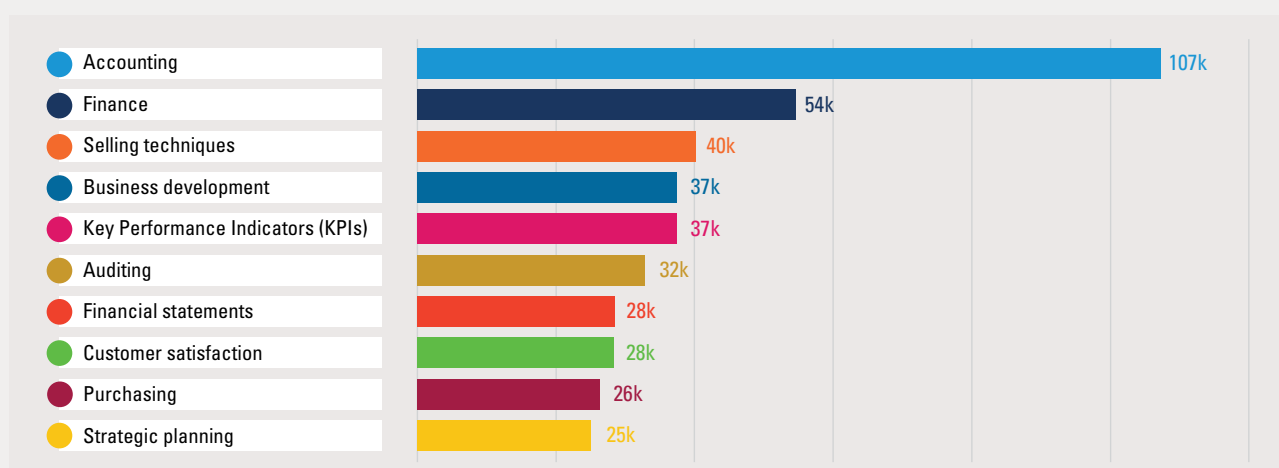
Business administration skills and consumer based skills is the most in-demand hard skills across the Arab region. For example, even though accounting is a skill that may be automated in the near future, it is still in-demand in the Arab region. This is not surprising given that most jobs in the region are in the services sector, and accounting as a skill and occupation is traditionally cross-cutting in most professions.

**Figure 1.** Top 10 demanded soft skills in the Arab region

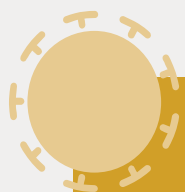


Source: ESCWA calculations based on the ESCWA Skills Monitor.

**Figure 2.** Top 10 demanded hard skills in the Arab region



Source: ESCWA calculations based on the ESCWA Skills Monitor.

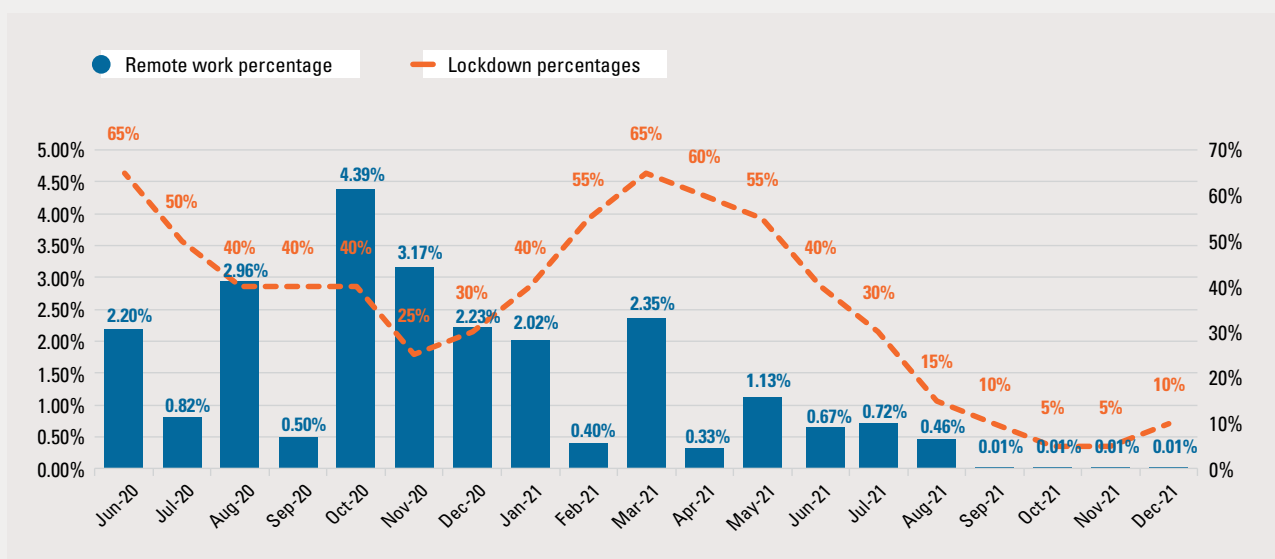


## 2.

**The abrupt closure of several workplaces as a result of the COVID-19 pandemic did not accelerate the adoption of teleworking in the Arab region to match global trends.**

Although COVID-19 has accelerated work-from-home transitions and acted as a catalyst to a long-overdue shift in work modalities worldwide, in the Arab region almost 55 per cent of Arab employees work in sectors that have low potential for remote work. An investigation was conducted of jobs tracked by the ESCWA Skills Monitor from June 2020 to March 2022 which found that telecommuting trends were not popular across many occupations especially in labour intensive sectors, such as the agricultural, forestry and fisheries sector, and the tourism sector.

**Figure 3.** Covid-19 waves and online openings for remote work



**Source:** ESCWA calculations based on the ESCWA Skills Monitor.

**Note:** The dotted line represents the percentage of countries in the Arab region having a complete lockdown for at least two weeks.





3.

**Based on a country pilot exercise, people in Lebanon accumulated only a small portion of the skills demanded by the market after being given the option to upskill without policy guidance.** Reskilling and upskilling guidance in the Arab region has an important role to play, given the large gap between attained skills and those required in the job market. To estimate this gap, ESCWA piloted a field study in partnership with the Lebanese Ministry of Labour, and launched an initiative (“لأن العلم مفتاح العمل، #لازم\_نتعلم”) which offered Lebanese citizens with the chance to choose, free-of-charge, from over 3,000 online training courses on the e-learning platform Coursera. Taking the 260 most demanded skills in the Lebanese market, Coursera applicants accumulated 42 per cent of these skills in addition to their baseline skillset. Only about 1,000 Coursera applicants gained the 10 most demanded skills.

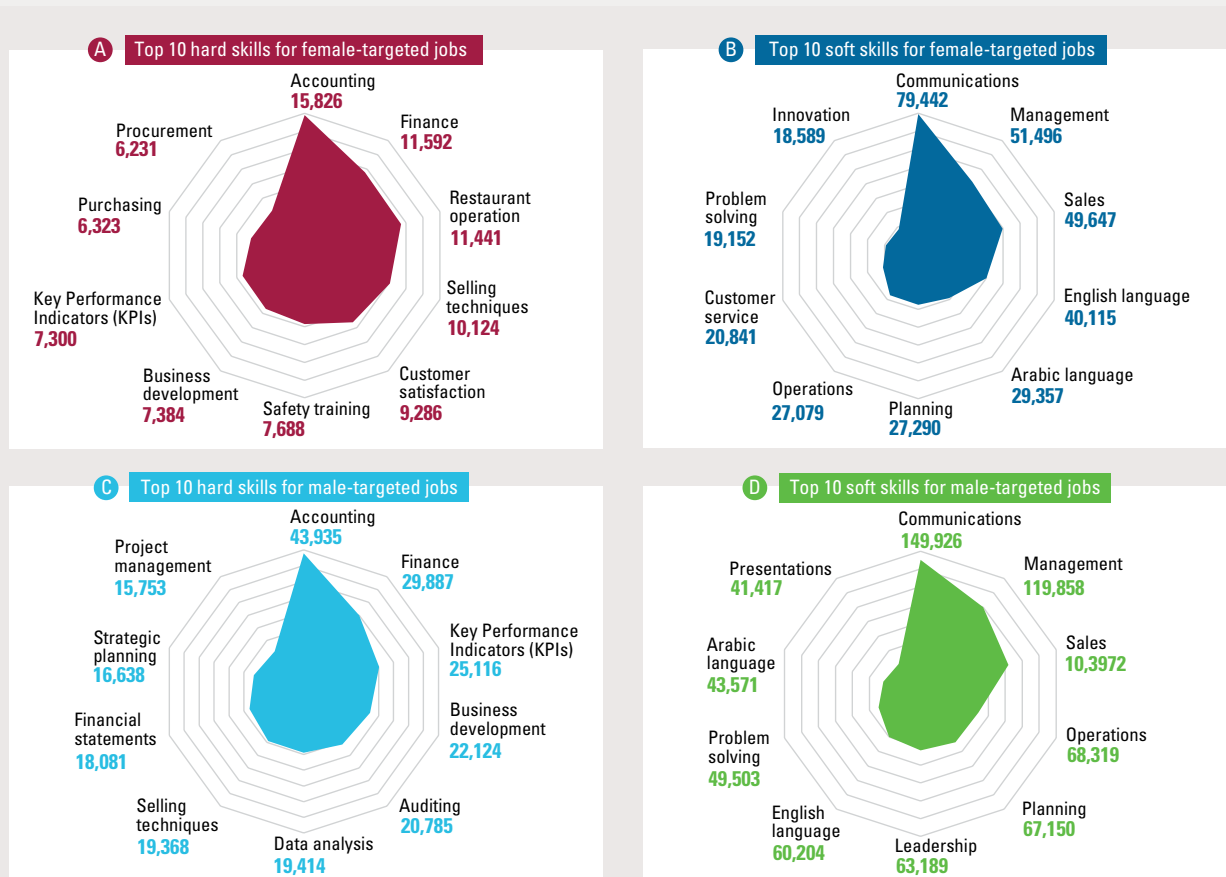


4.

**Many job advertisements explicitly or implicitly target a specific gender for a job opening. However, the needed skills in these job advertisements are gender neutral by definition.**

According to the ESCWA Skills Monitor, nearly 55 per cent of online job openings in the Arab region target males, whether explicitly or implicitly, while 32 per cent target females only and 12 per cent are gender neutral. However, the Arab job market demands soft and hard skills almost equally from both men and women. The ratio of demanded soft skills to demanded hard skills is 63 per cent for men and 61 per cent for women. 8 of the top 10 soft skills, and 5 of the top 10 hard skills are common between male-targeted and female-targeted jobs.

**Figure 4.** Top 10 demanded hard and soft skills for female jobs vs. male jobs

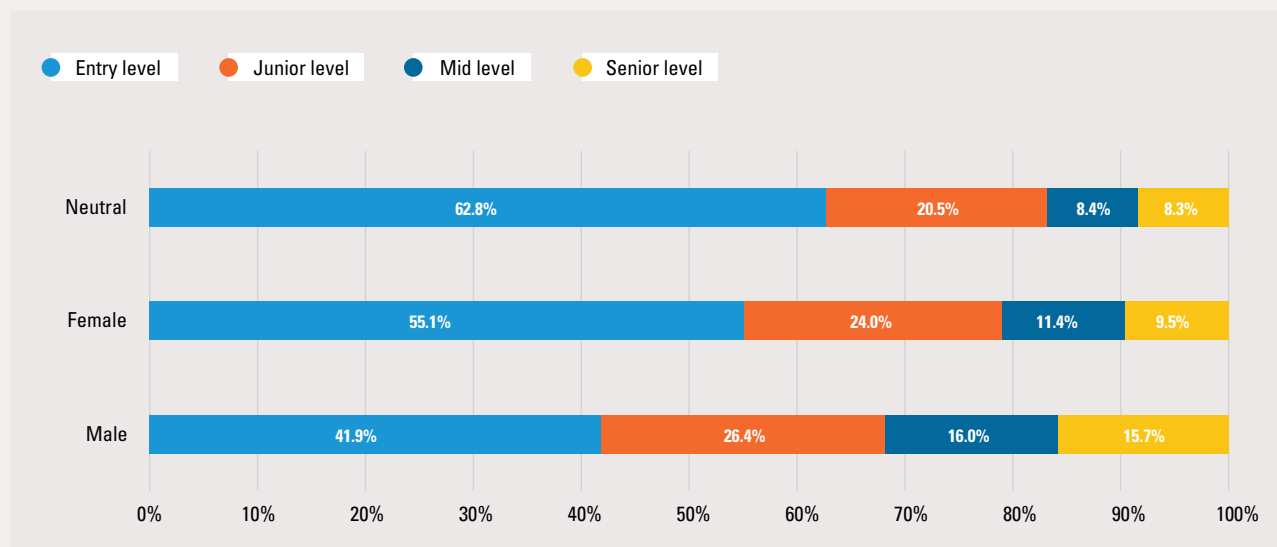


Source: ESCWA calculations based on the ESCWA Skills Monitor.



**Most in-demand female-targeted job openings are in entry-level jobs, while the lowest share of jobs targeting women are in management and senior-level positions, even though more senior jobs have more flexible work modalities.** The share of entry-level jobs demanded is larger for females (55 per cent) than males (42 per cent) in female- and male-targeted jobs. However, the opposite is true for senior-level positions: almost 16 per cent of online advertised jobs for senior-level positions only target men, compared with only 10 per cent that exclusively target women. Consequently, it could be inferred that while women are more likely to be hired in entry-level positions, they are less likely to reach senior management positions.

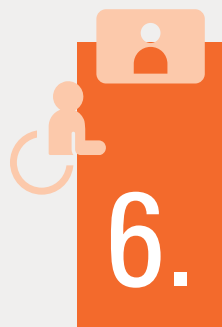
**Figure 5.** Career-level distribution of online job openings by gender



**Source:** ESCWA calculations based on the ESCWA Skills Monitor.

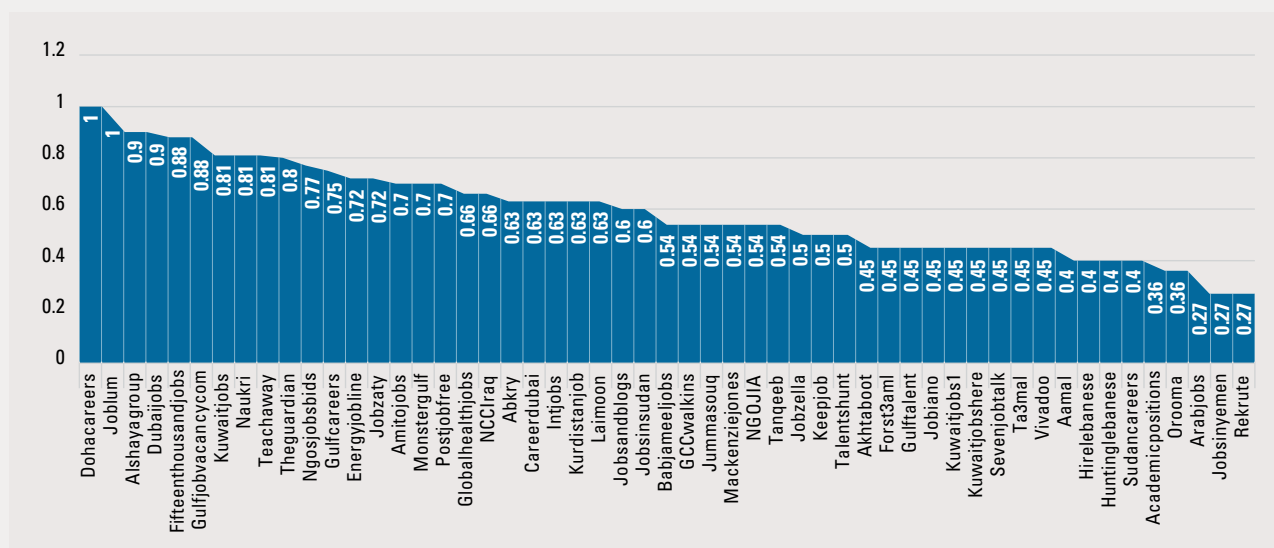






**Job openings in the Arab region are inclusive of and accessible to persons with disabilities; however, no job openings target persons with disability. Moreover, there is no evidence that most jobs can accommodate persons with disabilities.** E-accessibility scores were computed for the first 54 scraped hubs in the ESCWA Skills Monitor. Results indicate that out of the five job hubs from which most job postings were extracted (Tanqeeb, Waseet, GCC walkins, Wuzzuf, and Energy Jobline), four job hubs have e-accessibility scores equal to or greater than 94 per cent.

**Figure 6.** E-accessibility score for persons with disabilities by job hub



**Source:** ESCWA calculations based on the ESCWA Skills Monitor.

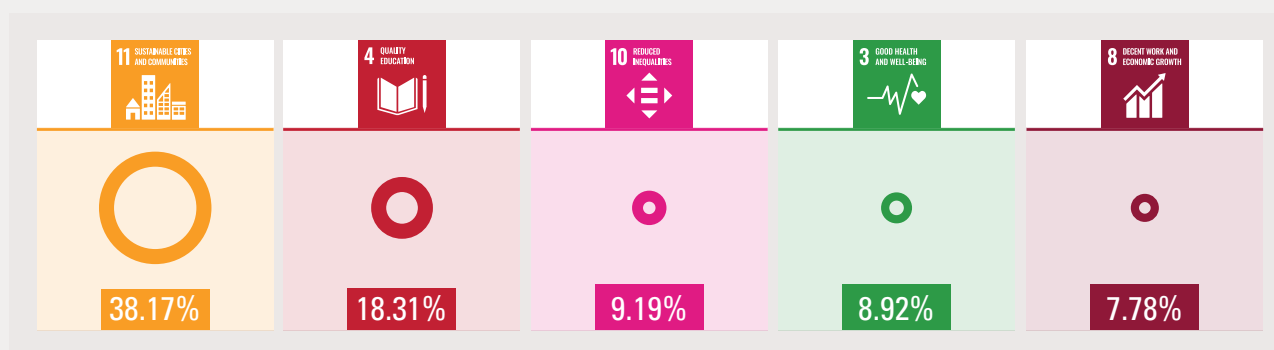
**Note:** The e-accessibility score evaluates the ease with which persons with disabilities can use the Internet and information technologies.



**Skills in online job openings in the region consider SDGs related to sustainable cities and communities; quality education; reduced inequalities; and good health and well-being.**

Advertised jobs target all SDGs; however, such targeting was disproportionate reflecting distinct private-sector priorities compared with regional ones. SDG 11, on sustainable cities and communities, is the most referenced SDG, with 38.17 per cent of collected online job openings containing keywords that can be attributed to sustainable cities and communities. This is followed by SDGs 4, 10 and 3.

**Figure 7.** Percentage of online job openings targeting each SDG in the Arab region

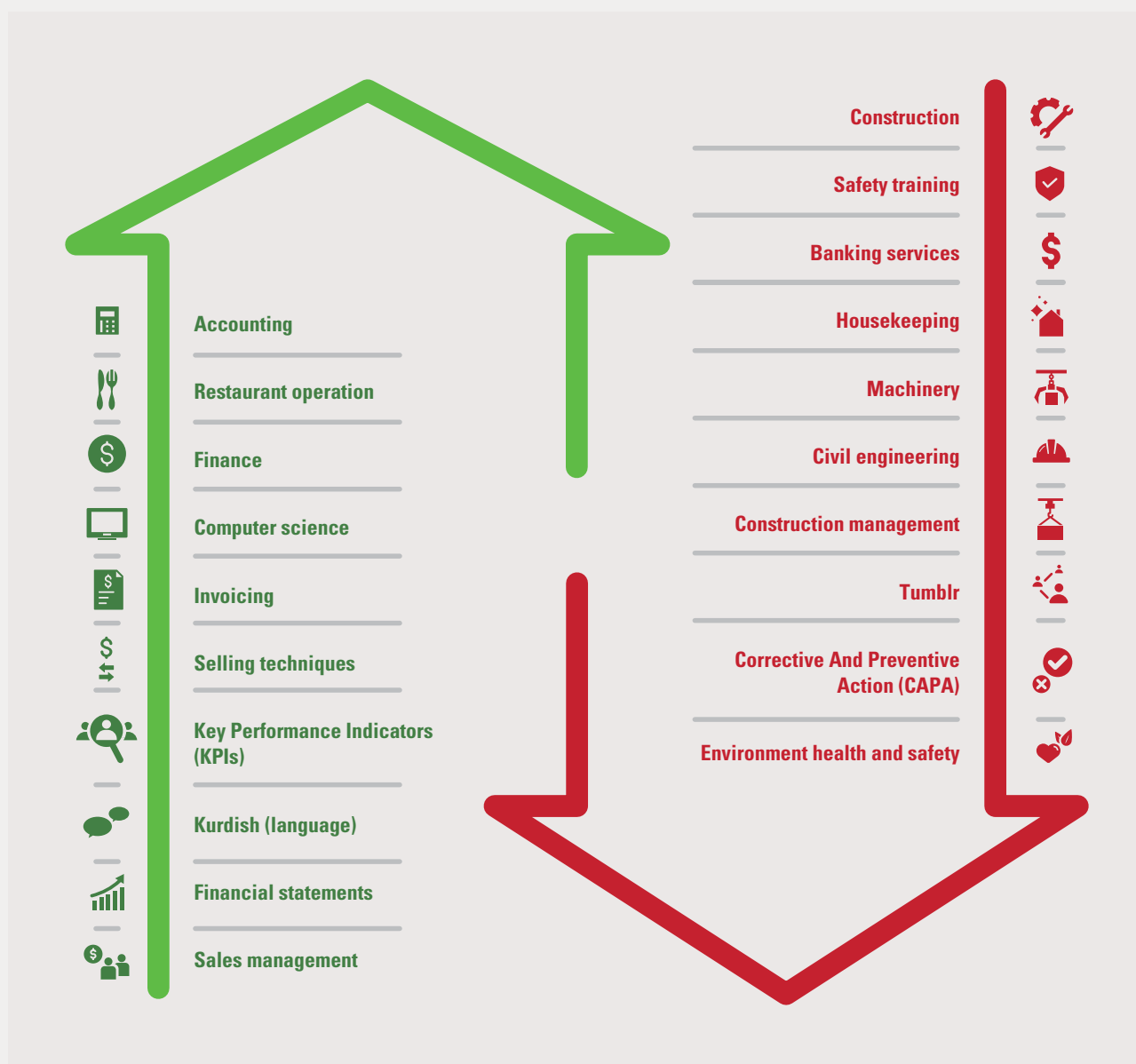


**Source:** ESCWA calculations based on the ESCWA Skills Monitor.



**Accounting and restaurant operation skills remain the highest in demand, with an increasing trend. Several ICT skills with decreasing trends are being replaced by other upward trending ICT skills in the same sector.** Based on the ESCWA Skills Monitor, soft skills are stationary in the Arab region, with limited trends over time. Most upward trending hard skills were related to accounting and restaurant operations and to services and sales. Among the most decreasing trends, several were related to construction sites and the medical field. As for the ICT field, many skills are on the decrease, such as software engineering and computer engineering, while a vast range of programming languages skills is increasing.

**Figure 8.** Ascending (left) and descending (right) trends of hard skills in the Arab region



**Source:** ESCWA calculations based on the ESCWA Skills Monitor.



9.

**The average AI scoring for the region is around 36 per cent, indicating a low level of AI augmentation.** The highest AI augmentation score is among data scientist positions, with around 50 per cent of tasks AI-augmented. Besides credit analyst jobs, the top 10 list includes mainly data-related occupations and finance jobs. The list does not include mid-skilled jobs, as all 10 jobs belong to high-skill activities. Looking at the list of the 10 least AI-augmented jobs, blue-collar and close to mid-skilled tasks are the jobs not heavily impacted by AI augmentation.



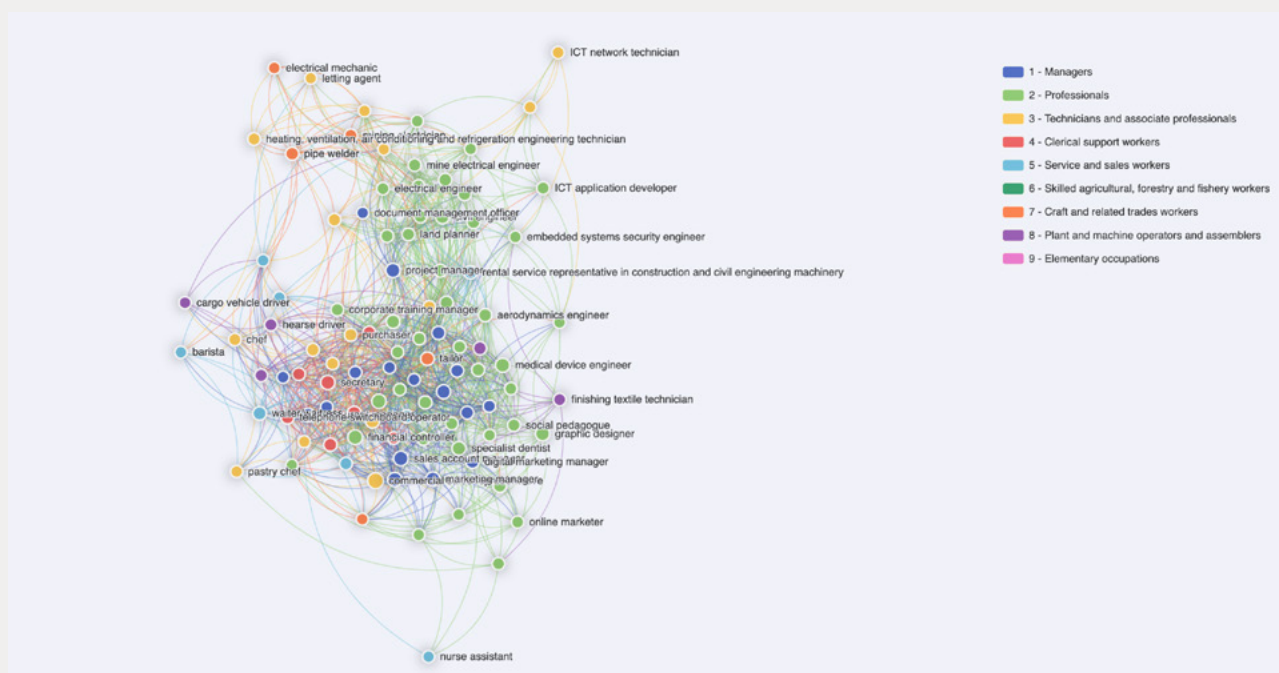
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10.

**The Arab region has a core cluster in business administration-related jobs, and is not heavily diversified in science-related jobs such as IT, manufacturing/industry, engineering and innovation.** The ESCWA Skills Forest unveils the interconnection between jobs as a network, based on the hard skills they share for each of the 19 studied Arab countries. The professional job family in the Arab region is dominated by job openings in business and administration, followed by science and engineering. The likelihood of moving from one job to another in the business administration field is higher than in fields such as IT or engineering, due to the high skills connectivity among jobs.

Figure 9. Skills Forest



Source: ESCWA calculations based on the ESCWA Skills Monitor.





## Policy recommendations

The policy recommendations below provide policymakers with options for promoting technological adoption and adaptation in the region and enhanced inclusiveness in the demand for jobs.



### 1

Promote remote working modalities for the integration of more women into the labour force, and to reduce female unemployment in the Arab region. This is most relevant in countries where political instability and traditional cultural norms are key issues impeding female employment. Remote working can be used as a tool to reduce female unemployment and increase their economic empowerment.



### 2

Encourage Arab Governments to guide nationwide skill sets by reducing labour market information gaps. This could be done by building labour market information systems and creating the right upskilling/reskilling/ technical and vocational education and training (TVET) programmes based on ESCWA Skills Monitor recommendations.



### 3

Enforce laws that enhance gender equality in job applications and in recruitment to enhance equal opportunity and representation in employment. Lobbying legislators, gender committees and international organizations can be effective, and enhancing gender equality may ultimately improve productivity, competitiveness, and overall economic performance.



### 4

Incorporate additional e-accessibility features for persons with disabilities within job hubs, such as ensuring a text-to-speech function and adjusting the colour contrast and font size of job descriptions. This can be ensured by following the WCAG e-accessibility standards in the design of websites, digital platforms and mobile applications to lessen the risk of alienating a large candidate pool in the job market.



5

Enhance technological infrastructure, facilitate human capital accumulation, digitize government services, and assist in the AI augmentation of tasks to enhance productivity and create additional employment. Additional technological adoption can create more jobs and increase wages due to higher productivity.



6

Develop appropriate reskilling and upskilling programmes as an attempt to prepare employees at risk to move to jobs with close proximities, to avoid labour substitution (full automation of activities). This can be done using the ESCWA Skills Forest by investigating jobs that are at risk of full automation.



7

Extend diversification and structural transformation efforts to create multiple cores in the Skills Forest as a plan for long term sustainable economic development. Building infrastructure for digital economies can help keep pace with the Fourth Industrial Revolution.



8

Prioritize human centred policies. Since individuals can lose their human capital over time, upskilling and reskilling programmes can refresh human capital knowledge, and increase employability for everybody, especially older employees that have a higher chance of not finding a job after being laid off.

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Shared Prosperity Dignified Life



**VISION:** ESCWA, an innovative catalyst for a stable, just and flourishing Arab region

**MISSION:** Committed to the 2030 Agenda, ESCWA's passionate team produces innovative knowledge, fosters regional consensus and delivers transformational policy advice. Together, we work for a sustainable future for all.

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