



**ECONOMIC AND SOCIAL  
COUNCIL**

Distr.  
LIMITED  
E/ESCWA/C.8/2024/9  
22 July 2024  
ENGLISH  
ORIGINAL: ARABIC

**Economic and Social Commission for Western Asia (ESCWA)**

Committee on Technology for Development  
Fifth session  
Amman, 7-8 November 2024



Item 10 of the provisional agenda

## **Digital transformation in the Arab region and digital government services maturity**

### **Summary**

The present document highlights the importance of digital transformation in the Arab region, especially in the field of government work. It also underlines the efforts of the Economic and Social Commission for Western Asia (ESCWA) to support digital transformation through its activities, especially through the development of the Government Electronic and Mobile Services (GEMS) Maturity Index.

The Committee on Technology for Development is invited to review the document and submit proposals on promoting digital transformation in the Arab countries.

## Contents

	<i>Paragraphs</i>	<i>Page</i>
Introduction .....	1–3	3
<i>Chapter</i>		
<b>I. Digital government globally and in the Arab region</b> .....	4–9	3
<b>II. The Government Electronic and Mobile Services Maturity Index</b> .....	10–24	6
A. About the index.....	10–14	6
B. The reality of the Arab region from the GEMS Index perspective.....	15–24	8
<b>III. Development of the 2024 GEMS Index (GEMS 2.0)</b> .....	25–32	11
A. Expanding the scope of services .....	27–28	11
B. Developing key performance indicators .....	29–32	12
<b>IV. Concluding proposals</b> .....	33–34	13

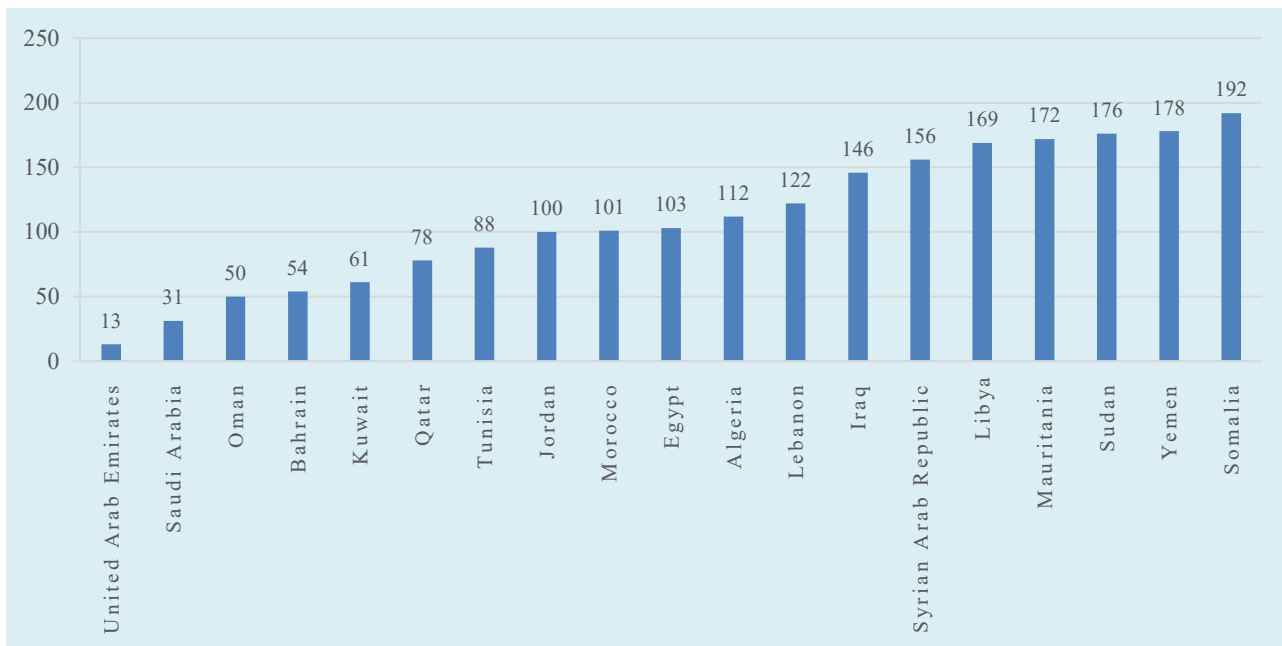
## Introduction

1. The Fourth Industrial Revolution (4IR) is bringing accelerated changes that are reflected in all aspects of life, with an impact on both individuals and entities, including government entities and their modus operandi. These entities can no longer manage their operations and provide services to citizens or residents manually or on paper as was customary in previous decades, and are now striving to enhance their efficiency and effectiveness in service delivery. In this context, digital transformation has become a basis for solutions aimed at harnessing technology to serve the interests of individuals and entities, and contribute to solving various social and economic problems.
2. Interest in the development of digital government services is growing in the Arab region, as in other parts of the world. In some Arab countries, long-hour queues to obtain an official document are no longer commonplace, and digital platforms have become a reality offering various services to individuals and entities, including services that were very complex in previous years such as passport renewal, social assistance requests and tax transactions. This reality saves time and effort for service seekers and contributes to advancing inclusive development efforts at the national level, in line with the Sustainable Development Goals (SDGs), especially those related to promoting digital literacy (SDG 4), digital inclusion (SDGs 5, 8 and 10), innovation (SDG 9) and enhancing the efficiency of institutions (SDG 16).
3. This course of action is fraught with challenges. The disparity in the readiness of technological infrastructure and the difference in digital skills among segments of society in some countries are obstacles that need to be overcome. In addition, there is an urgent need to complete the digitization of key national registries and develop digital applications and platforms to allow all individuals without exception to access digital government services anywhere and at any time.

### I. Digital government globally and in the Arab region

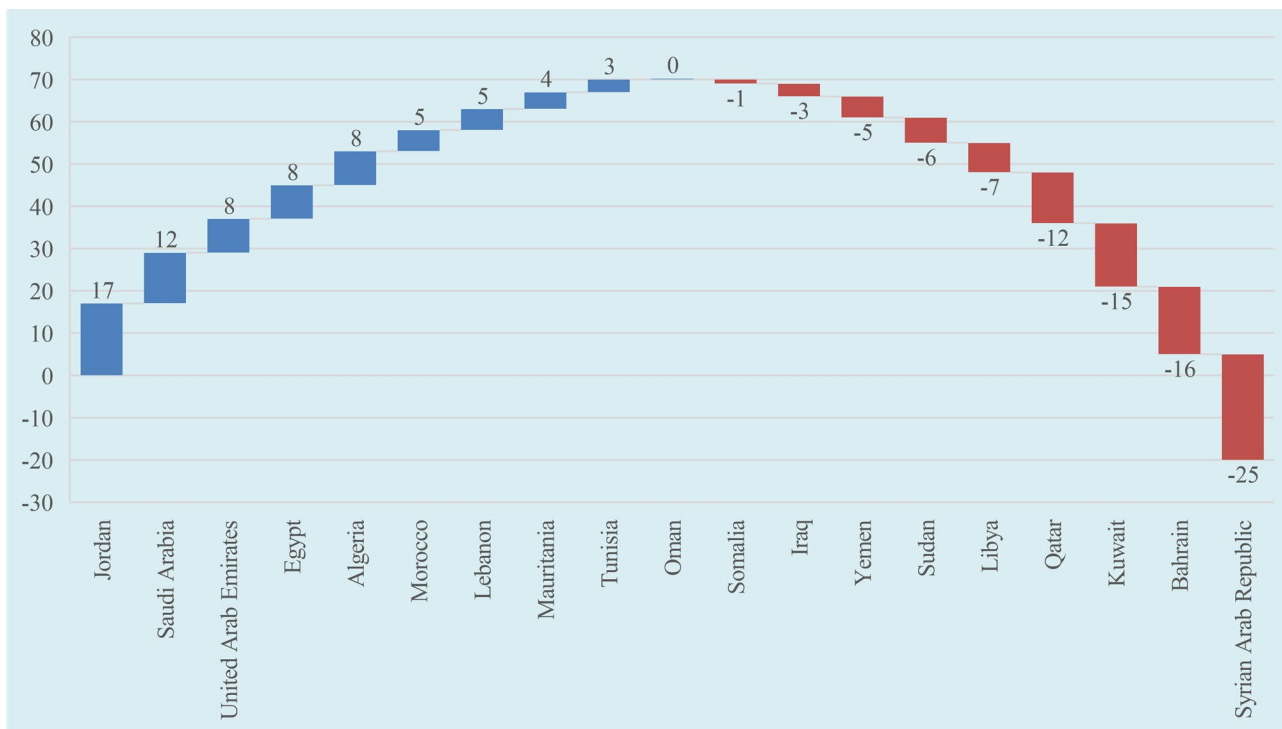
4. The [United Nations e-Government Survey 2022](#) showed that the world's countries have made remarkable progress in the field of e-government, with the number of countries that recorded a very high value (between 0.75 and 1.00) in the [e-Government Development Index](#) (eGDI) rising from 57 to 60 countries, an increase of 5 per cent compared with 2020. The index measures three dimensions of e-government: the availability of e-services, the level of development of telecommunications infrastructure, and human capital. It presents results on a scale ranging from 0 to 1.
5. The number of countries with a high score in the index (between 0.5 and 0.75) also increased from 69 to 73 between 2020 and 2022. Eight countries entered this category for the first time, three in Africa (Côte d'Ivoire, Rwanda and Zambia), two in the Americas (Belize and Guyana) and three in Asia (Lebanon, Nepal and Tajikistan). In parallel, the number of countries with an average value (between 0.25 and 0.50) decreased from 59 to 53, and the number of countries with a low value (less than 0.25) dropped from 8 to 7. It should be noted that all countries in this group are least developed and/or landlocked developing countries.
6. As for the Arab region, the average values in the index remain below the global average. Some countries scored very high values such as the United Arab Emirates, Saudi Arabia, Oman and Bahrain. Other countries recorded high values such as Kuwait, Qatar, Tunisia, Jordan, Morocco, Egypt, Algeria and Lebanon. In contrast, Iraq, the Syrian Arab Republic, Libya, Mauritania, the Sudan and Yemen were in the middle-value category, and Somalia was classified as a low-value country (figure 1).
7. The comparison between 2020 and 2022 (figure 2) shows that some Arab countries, such as Jordan, have made progress in the index and in the global ranking, while others have declined in value and ranking. At the regional level, the ranking remained stable between the two years, although the Arab region made little progress in the overall value of the index. The efforts made, despite their importance, were insufficient to advance the ranking compared with other regions of the world.

**Figure 1. Ranking of Arab countries in the e-Government Development Index 2022**



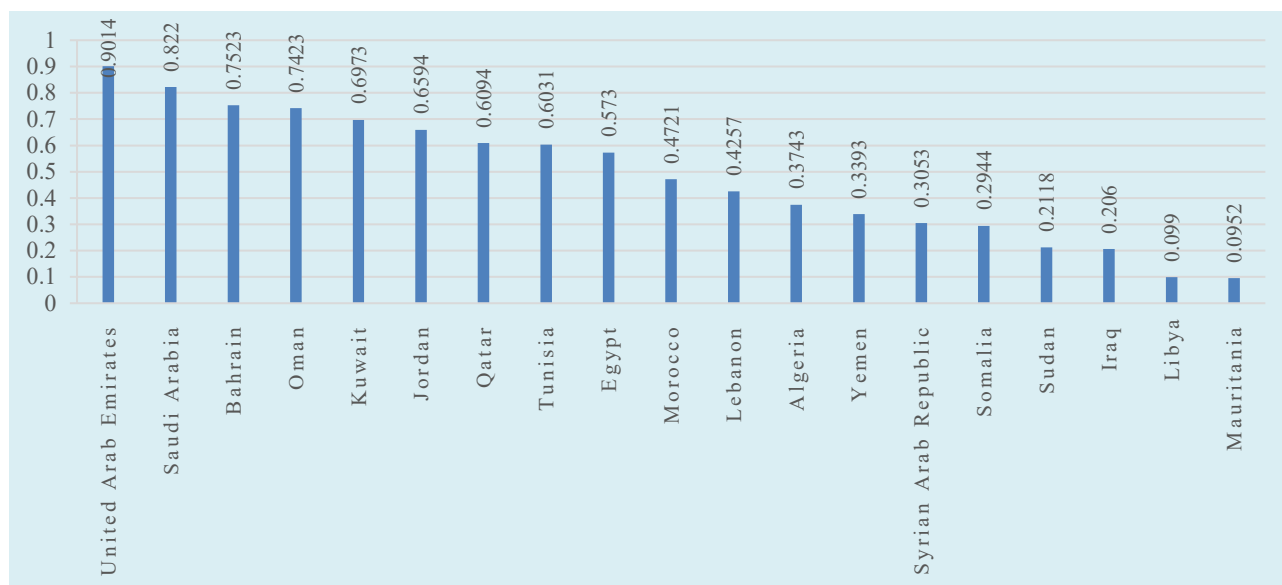
Source: Compiled by the Economic and Social Commission for Western Asia (ESCWA) based on data from the United Nations Department of Economic and Social Affairs (accessed in October 2022).

**Figure 2. Changes in the ranking of Arab countries between 2020 and 2022**



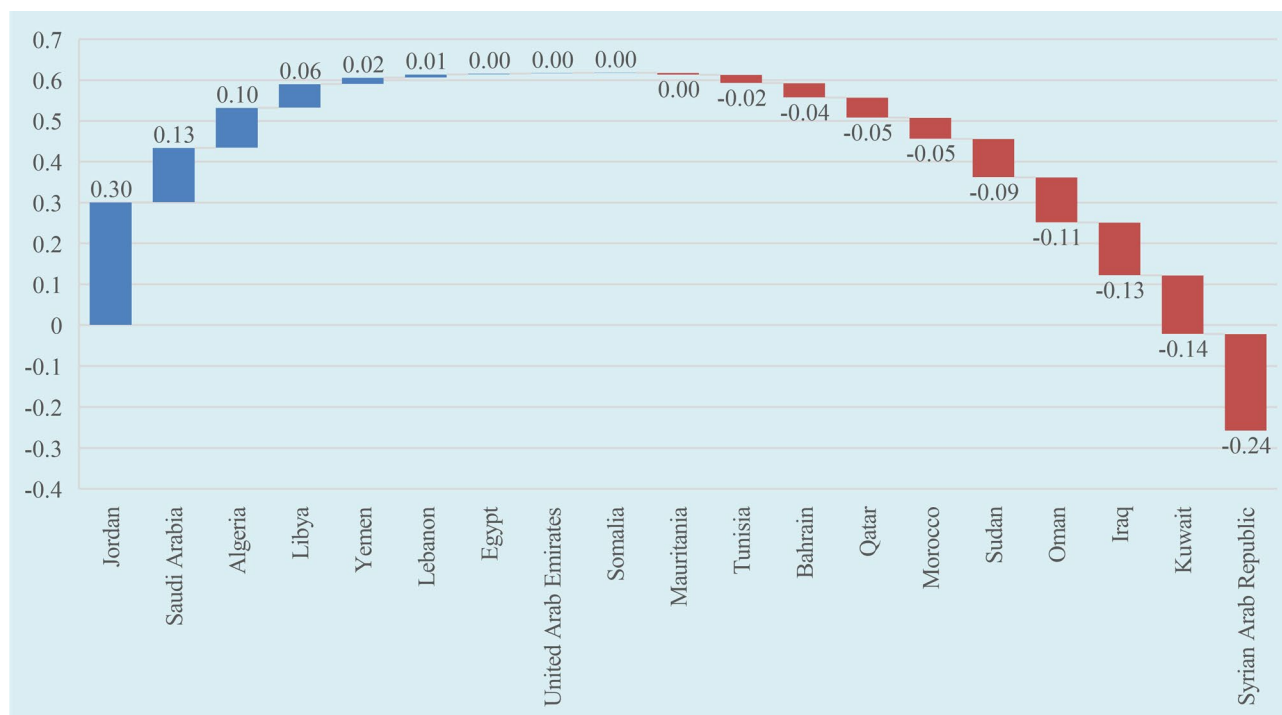
Source: Compiled by ESCWA based on data from the United Nations Department of Economic and Social Affairs (accessed in October 2022).

8. Figure 3 shows the ranking of Arab countries in the Online Service Index (OSI), which measures the availability of digital services at the national level. The United Arab Emirates tops the regional ranking, followed by Saudi Arabia and Bahrain. The OSI median value for the region is 0.483.

**Figure 3. Ranking of Arab countries in the Online Service Index 2022**

Source: Compiled by ESCWA based on [data from the United Nations Department of Economic and Social Affairs](#) (accessed in October 2022).

9. Changes in the OSI values can also be compared between 2020 and 2022 (figure 4). The comparison shows that the most developed Arab country is Jordan, which recorded an increase of 0.3 points in its OSI value. At the regional level, a very slight decline was noted (0.01), indicating that further efforts are needed in the Arab region to make e-services available online.

**Figure 4. Changes in the ranking of Arab countries in the Online Service Index between 2020 and 2022**

Source: Compiled by ESCWA based on [data from the United Nations Department of Economic and Social Affairs](#) (accessed in October 2022).

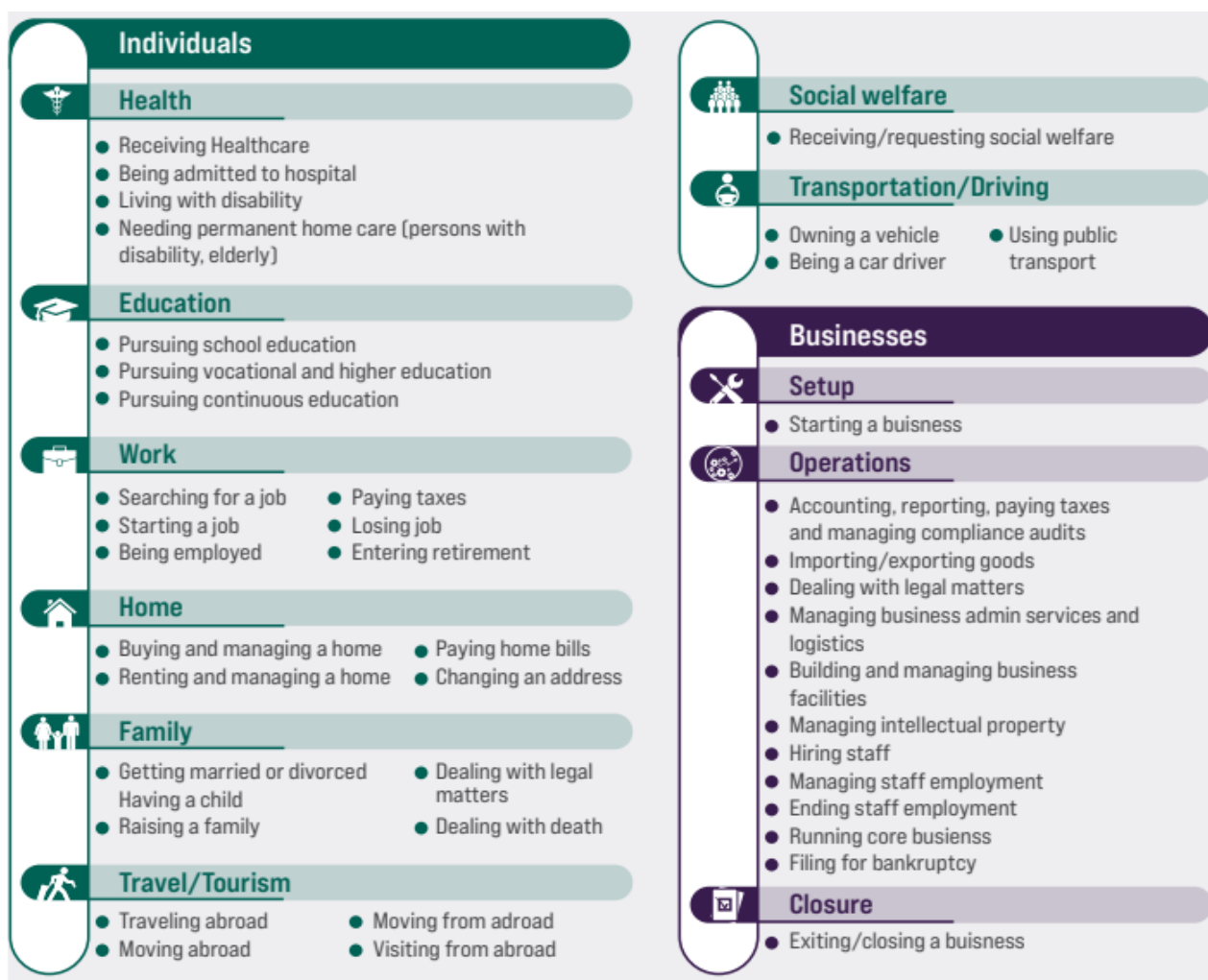
## II. The Government Electronic and Mobile Services Maturity Index

### A. About the index

10. The Economic and Social Commission for Western Asia (ESCWA) secretariat has developed a tool to measure the maturity of government electronic and mobile services and highlight areas for developing them. Through this tool, ESCWA seeks to support policymakers and decision makers in the Arab region in developing and updating relevant national plans to accelerate digital transformation and the provision and use of digital government services, and increase their efficiency.

11. The Government Electronic and Mobile Services (GEMS) Maturity Index aims to measure the maturity of government services provided through portals and mobile applications in Arab countries. It also aims to provide decision makers and policymakers with an index that covers certain dimensions that are not included in many global indices, namely the degree of sophistication of services, their usage and user satisfaction, and the extent of adequacy and effectiveness of government efforts for public outreach. To achieve this, 84 government services that are essential for both individuals and businesses in 11 different categories have been selected (figure 5). It should be noted that a life-cycle principle has been used in the selection of these services. Therefore, some services have been selected because individuals need them throughout the stages of their lives, along with other services that companies need for their establishment, operations and even their closure.

Figure 5. Categories of services covered by the GEMS Index

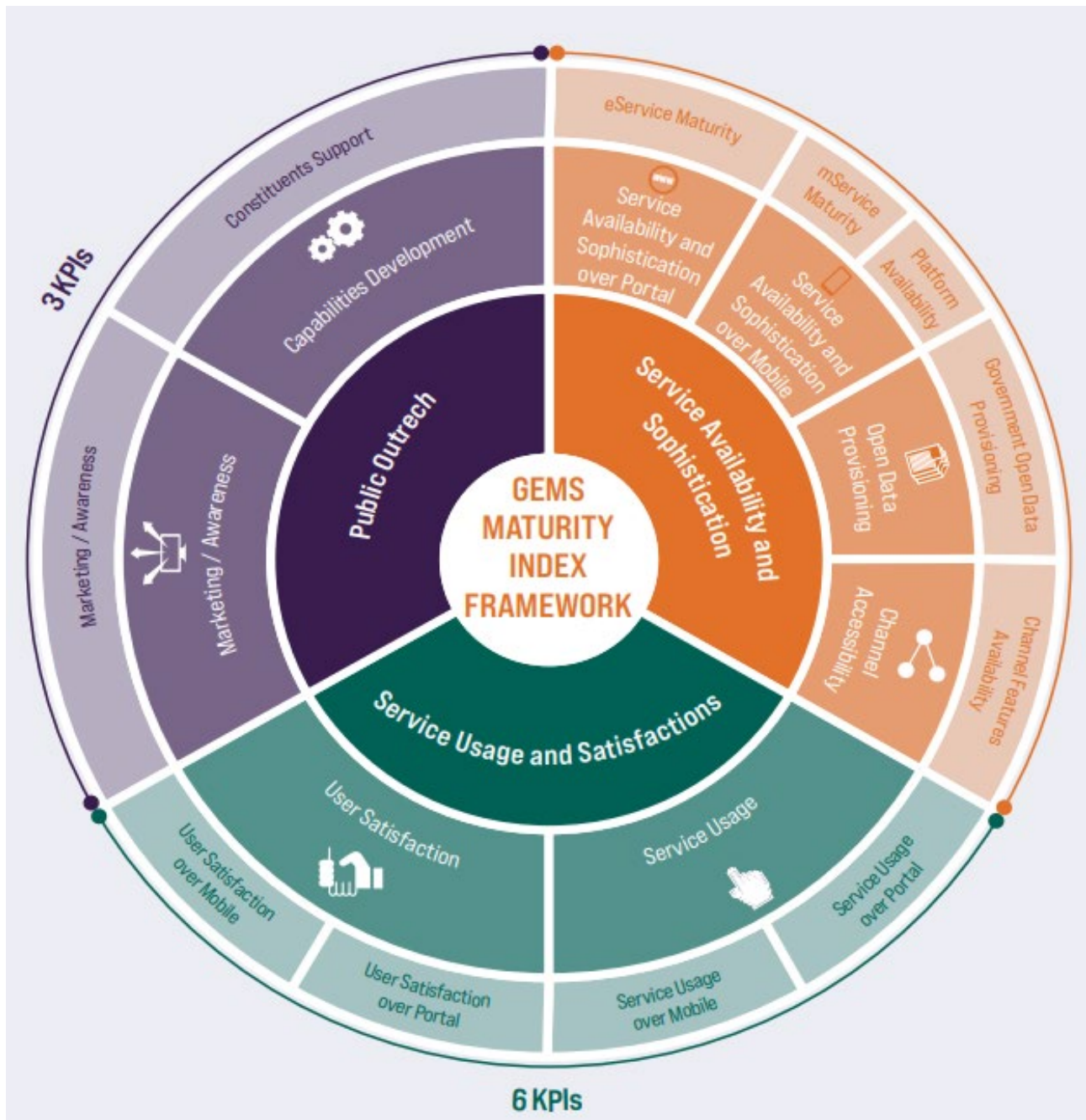


Source: ESCWA, Government Electronic and Mobile Services (GEMS) Maturity Index, February 2014.

12. Maturity, in the context of GEMS, indicates that a service has been digitized throughout its steps, that it was promoted using marketing and awareness campaigns and that it is well used by individuals and entities that should also benefit from direct access to support and communication tools.

13. The GEMS Index is based on three main pillars (figure 6), namely service availability and sophistication (supply), service usage and user satisfaction (demand) and public outreach (inclusiveness). These main pillars are grouped into 11 categories shown in the outer ring of the circle in figure 6. To measure these three pillars, 24 key performance indicators (KPIs) were adopted: 15 KPIs for the first pillar, 6 KPIs for the second pillar and 3 KPIs for the third pillar.

**Figure 6. GEMS structure by pillar, sub-pillar and category, and the distribution of key performance indicators**



Source: ESCWA, [Government Electronic and Mobile Services \(GEMS\) Maturity Index](#), February 2014.



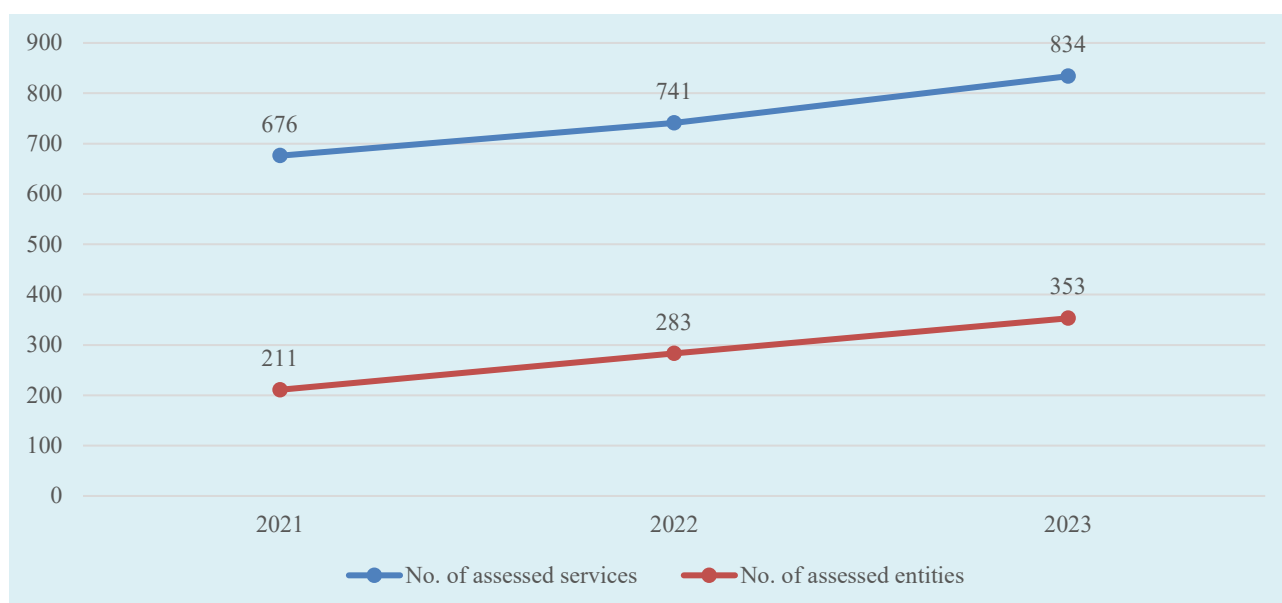
14. The GEMS Index was first measured in 2019, with 12 member States participating: Bahrain, Egypt, Iraq, Jordan, Mauritania, Oman, the State of Palestine, Saudi Arabia, the Sudan, the Syrian Arab Republic, Tunisia and the United Arab Emirates. In 2023, the index coverage was expanded to include the following 17 States: Algeria, Bahrain, Iraq, Jordan, Kuwait, Libya, Mauritania, Morocco, Oman, the State of Palestine, Qatar, Saudi Arabia, Somalia, the Syrian Arab Republic, Tunisia, the United Arab Emirates and Yemen.

### B. The status of the Arab region from the GEMS Index perspective

15. Although data could not be collected for all member States, the total number of services and entities included in the assessment increased steadily between 2021 and 2023. Figure 7 shows the change in the total number of assessed services and entities for all member States between 2021 and 2023.

16. The growth in the number of annually assessed services indicates that Arab countries are increasingly adopting digital transformation, especially in the digitization of government services. The increased number of assessed entities indicates their growing interest in implementing digital transformation in various development sectors.

**Figure 7. Changes in the total number of assessed services and entities from 2021 to 2023**



Source: ESCWA calculations.

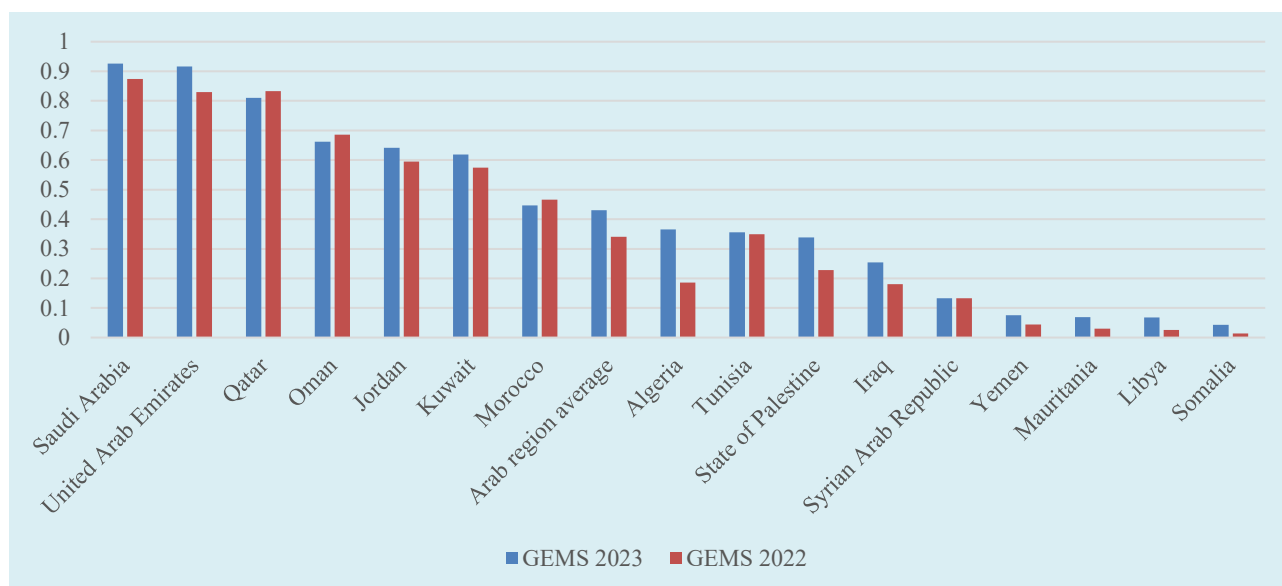
17. Figure 8 shows the overall scores of Arab countries in the 2023 GEMS Index. Arab countries participating in the assessment could be divided into three main groups. The first group represents values above 50 per cent and includes Saudi Arabia, the United Arab Emirates, Qatar, Oman, Jordan, Kuwait and Bahrain. The second group has scores above 10 per cent and below 50 per cent, and includes Morocco, Algeria, Tunisia, the State of Palestine, Iraq and the Syrian Arab Republic. The third group (less than 10 per cent) includes Yemen, Mauritania, Libya and Somalia. There is a significant difference between the lowest and highest scores, ranging from 4 to 93 per cent. Compared with 2022, the gap in the maturity of digital government services is widening. This requires supporting Arab countries that are still at an early stage of digital maturity and benefiting from the exchange of experiences between Arab countries to accelerate digital transformation.



**Figure 8. GEMS 2023 overall scores**

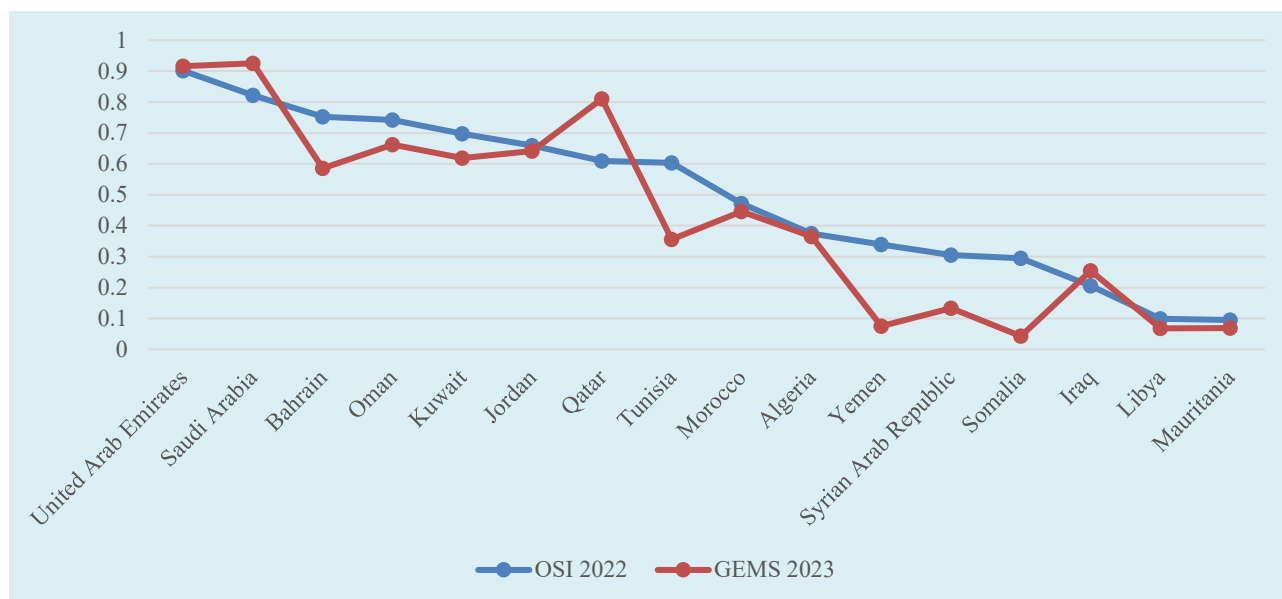
Source: ESCWA calculations.

18. By comparing results between 2022 and 2023 (figure 9), it is clear that most overall scores have increased and most countries participating in the assessments have made progress. This reality demonstrates the relentless efforts of these countries to implement digital transformation at the national level.

**Figure 9. Changes in GEMS scores between 2022 and 2023**

Source: ESCWA calculations.

19. While remarkable progress has been achieved on the GEMS Index, the region still needs to deploy further efforts to provide telecommunications infrastructure in most countries and build human capital. Figure 10 compares between the results of GEMS and the OSI 2022, a sub-index of the eGDI that the United Nations Department of Economic and Social affairs measures for all countries worldwide. Overall, there is both consistency and integration between the two indices. The availability of online government services should be accompanied by an advanced level of maturity in terms of service sophistication, usage and user satisfaction, and public outreach. This indicates the importance of integrating the two indices to provide a better view of the extent of digital transformation, in terms of both supply and demand. The correlation rate of 91.1 per cent between the two indices also indicates their consistency.

**Figure 10. Arab region performance according to OSI 2022 and GEMS 2023**

Source: ESCWA calculations.

20. The GEMS 2023 assessment shows an increase in digital government services in the utilities, education and cross government affairs sectors. The scores of services assessed by sector indicate that the utilities and interior sectors were ahead of other sectors.

21. In terms of service availability and sophistication, eight Arab countries have scores above 50 per cent. This is a good indicator that services are available and have reached a good level of sophistication. Conversely, the four countries with scores below 10 per cent should seek to strengthen their technological infrastructure, provide more services electronically, fully digitize services at all stages and make them available through different means, including portals or mobile applications. Comparing results between 2022 and 2023 reveals that most Arab countries have made progress in this pillar, which confirms their interest in providing and developing services digitally.

22. In contrast, the average of the service usage and user satisfaction pillar is the lowest among the three pillars of the index, although seven Arab countries have scored values above 50 per cent. Services should therefore be provided through different channels, and citizen complaints about services should be followed up on and addressed. Comparing 2022 and 2023 results, the Arab region has made little progress under this pillar.

23. In the public outreach pillar, the wide interval of Arab countries' scores, ranging between 5 and 100 per cent, indicates the need to launch marketing campaigns to accompany digital government services that are being developed, and to provide support tools (such as virtual reality and live chat 24/7) for both individuals and entities. The comparison between 2022 and 2023 results indicates an overall improvement in the Arab region's performance under this pillar.

24. Finally, in terms of KPIs, it is important at the regional level to provide mobile applications and feedback enablement through the mobile, and to provide features for persons with disabilities to access available e-services and facilitate enhanced interaction, whether on portals or mobile applications. It is also important to enhance service usage over the mobile as well as overall usage at the entities level and to provide the means required to increase user satisfaction over the mobile. It is equally crucial to support channels interoperability, so that transactions can be completed via the mobile application if they were initiated through the portal and vice versa.

### III. Development of the 2024 GEMS Index (GEMS 2.0)

25. The concept of digital transformation has continued to evolve in recent years. It is no longer limited to achieving digitization and providing services through digital channels, but also refers to the integration of government entities so as to form a unified digital entity with citizen-centred service delivery. For example, linking government entities (G2G), employing emerging technologies in the development of government services and using a unified digital identity to access these services are important dimensions of digital transformation. With the growing interest in the GEMS Index in the Arab region, and to keep pace with the rapid progress in the provision of government services, ESCWA proposes to develop this index to expand the scope of services and measure them more accurately. The updated version is called GEMS 2.0.

26. The proposal includes a number of modifications that will be added to the index, without deleting or changing its basic structure. These proposed modifications aim to expand the scope of services covered by the index, maintain its three main pillars (service availability and sophistication, service usage and user satisfaction, and public outreach) and support them with additional KPIs.

#### A. Expanding the scope of services

27. The proposed modifications of the index for 2024 include increasing the number of government services measured by the index in one country from 84 to 100.

28. A list of new services proposed to be added to the index framework was prepared in consultation with the national focal points in Arab countries. These services were selected based on the following criteria: first, the service should be provided to individuals and entities according to a life-cycle principle; second, the service should be transactional and not aimed at providing information only; third, the service should be implemented in most Arab countries and not limited to a small-scale exceptional case; and fourth, the service should be in high demand by target users. Table 1 shows the list of new added services.

**Table 1. List of new added services**

New added services
Request a trademark registration
Request a financial clearance for a property or release of a mortgage
Issue an identification card for persons with disabilities
Issue a license for a small home-based business or private entrepreneurship
Issue a family identification card or family book
Issue a financial clearance for companies
Issue a financial clearance for individuals
Enforce judicial rulings (e.g. payment of a fine or bail)
Request a vehicle clearance
Request to damage or drop a vehicle and remove it from service
Approve the licensing of a media company (artwork, publications)

New added services
Request a property status declaration (real estate registration)
Request a government housing service (application for housing – payment of instalments)
Payment of property tax
Submit a complaint about a consumer product or commodity
Report lost personal identification documents or lost items
Report damage to public roads
Request the transfer of a student from one school to another (government schools)
Apply for patent registration or copyright deposit certificate
Pay for a national fund (donations, grants, zakat...)

### B. Developing key performance indicators

29. The proposed modifications include the addition of a number of KPIs to monitor new aspects and dimensions that have become prerequisites for digital transformation in government services, thus increasing the number of KPIs from 24 to 35. Table 2 shows the distribution of KPIs across the three pillars of the index.

30. Initially, many national and international indices were reviewed, such as the Digital Services Quality Index, the Digital Transformation Enablers' Index, the Government Data Maturity Index in the United Arab Emirates, the e-Government Services Maturity Index in Saudi Arabia, and the GovTech Maturity Index of the World Bank. Developments in government digital transformation were also reviewed, then a list of new proposed areas was developed and additional dimensions for assessment were selected based on the following criteria: first, the performance indicator should be consistent with the pillars of the GEMS Index; second, it should add a new dimension to measure the maturity of digital government services; and third, it should be suitable for use in the Arab region.

**Table 2. Distribution of key performance indicators across the three index pillars**

Pillar	Number of KPIs in GEMS 2023	Number of KPIs in GEMS 2024
Service availability and sophistication	15	21
Service usage and user satisfaction	6	7
Public outreach	3	7
Total	24	35

31. The following are some of the dimensions that will be monitored in the proposed KPIs:

- Linking and data sharing between government entities, whether through a unified government service bus (GSB), a central network or application programming interfaces (APIs).

- Employing emerging technologies in the development and improvement of digital government service, such as blockchain to increase service security, and artificial intelligence to provide support and understand user behaviour.
- Using the unified digital identity to access digital government services.
- Applying the concept of proactive service in the provision of government services to enhance the user-centred service delivery.
- Ensuring the continuity of service operation and service availability to the user.
- Ensuring the quality of open government data according to the standards.
- Enhancing the response of government entities to enquiries and assistance requests.

32. These modifications allow the transition to the updated version of the index (GEMS 2.0) with a view to highlighting efforts in providing digital government services and achieving digital transformation in a manner consistent with the acceleration imposed by the 4IR and the evolving needs of individuals and entities.

#### **IV. Concluding proposals**

33. The ESCWA secretariat continues to focus on strengthening regional cooperation on digital transformation and digital government issues, providing support for harnessing emerging technologies for sustainable development, developing the GEMS Index in line with digitization developments and governments' use of emerging technologies, and strengthening cooperation with national focal points in member States.

34. The Committee on Technology for Development is invited to comment on these trends and discuss the needs of countries in promoting digital government transformation in the Arab region.

-----